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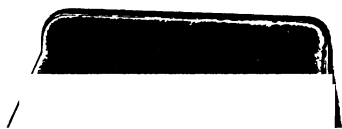
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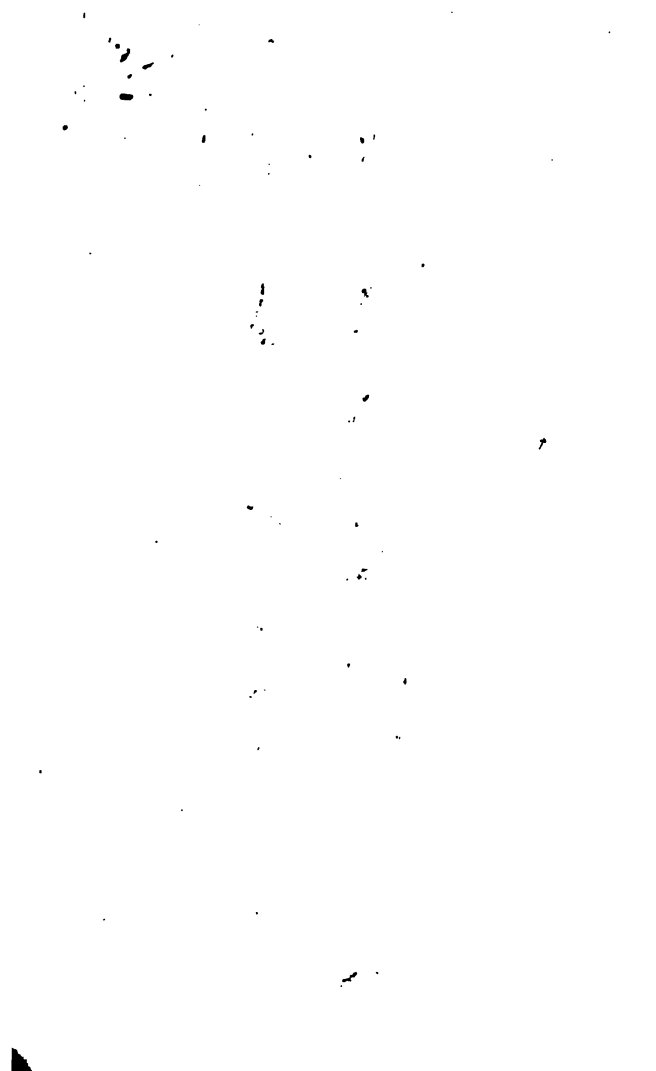






Hints from the Dawning.

SECTION IV.



HOW GLOBES
ARE RAISED, AND MOVED:

BEING

THE FOURTH PART OF

HINTS

FROM

THE DAWNING;

OR,

THE CREATION STORY

CONSIDERED UNDER

THE LAWS OF LIGHT AND MOTION.

BY

EDWARD DINGLE.

"For the Spirit of Life was in the wheels."

LONDON:

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Preface.

ALTHOUGH throughout this work the author has endeavoured to use the most simple practical illustrations of the laws of physics, and from natural objects, where God supplies what is suitable to the point, and the same course is as far as possible preserved here—yet, as the number of persons but ordinarily well grounded in astronomical facts are few, especially among the reduced circle of the Christian Church, who are mostly taken from the ignorant, simple, and poor,—such readers must not be hasty, and give up the enquiry against the sceptics of the age, merely because some parts of this work are outside their apprehension, and habits of thought.

Necessarily, I have to prove my positions on the well-known scientific data already acquired, and even persevere to correct, for the sake of truth, the oldest and greatest masters, where they were wrong. The course required for that, needed to be as strictly scientific, and in the line of the old school order as possible to me.

If therefore, the reader finds he arrives at passages referring to diagrams and figures he is not able to

follow, he can only do, readily, what he often has to do in parts of the Bible itself, *i.e.*, pass on to what is within his comprehension, and he will find he will grasp the general character of the evidence, and the beauty of the divinely-given synopsis of all science by Moses, quite as well as is needed to satisfy him, and add to his pious aspirations to reach in Christ after God.

To the man of science, the author says weigh all fairly: as to be hasty, or bigoted, is not the way to make converts. If you can shew any truth, have faith in the Truth. Work by it against aught wrong, and believe that the Armour of Light is the best and always a secure means of final success. Retaining old, or developing new and more subtle errors will be useless, for it hath been said by One who can command his will, "Every secret thing shall be brought to light."

E. DINGLE,
TAVISTOCK.

An Historical Notice on the Attainments of the Sacred Writers in Astronomic Labr.

CHAPTER VIII.

IN no age did there ever exist so wide-spread a profession of regard for truth, or such an aspect of its eager pursuit; yet is it not to be justly feared that in neither was a greater paucity of enquirers, truly open, and above false internal and external influence? Human predisposition, as much as ever vitiating the proportion of openness of heart. If Christian truth, in results of the gospel light belonging to this administration, has, we may believe, increased the lovers of all truth, yet in the mass, the predisposition against direct Divine government by revelation, so predominates, that under such an excellent profession the greatest sceptics veil their desires, and most Christians are warped in sectarian lines of devotion. Education associated with, and assisted by the enlarged reading of the Holy Scriptures, both tends to improve the desire for intellectual pursuits by expanding the mental powers, and to stamp the grand objects they present on morals, general history, and science, even when no deeper work of converting grace is effected by the great mercy, pro-

found theology, rich doctrine, and powerfully sublime facts therein made known. Men may thirst to improve the intellect for self pride, and yet refuse all devotion of its powers as responsible to God: thus, the printing press, in facilitating the possession of the Bible, and all its educational results, necessarily tends to great acquisition in all learning, as it is from the key to all wisdom, working it out for the glory of God.

Man is a being whose powers by their training in any direction thirsts the more for his wonted food: the acquisition and appetite acting and reacting to strengthen each other. This was a necessary law to reward and own the path of right, but involves also its associate results under false impulse. The moral dispensation of providential and judicial results could not be perfect, under God, unless action and reaction were here also just ratios.

Thus moral and educational results are ordered to become, in life agencies, an inheritance; and mingled efforts by the sexes stamp the likeness of the past, associated with the work of progress on the seed, by the law of conception. This means to the enlargement of the powers and blessings developed in mankind, of intellectual vigour, (especially as at work, above decline, in this age, through Jesus' testimony and its impression, so affecting all,) tempts many

NOTE.—The author, when in the British Navy, was acquainted with a Marine Artillery Officer, who, although he was an avowed sceptic, constantly read the Bible, because he said its poetry was so sublime. Of course this would improve his taste and judgment on its topics, even if his heart in pride was steeled against its moral claims as of God. A change in any floating medium, material or mental, is added power in all directions, if it be of mass. The author himself soon after became, for a season, a foolish sceptic.

men to rob Christ of his glory in it; and while benefitted by, and appropriating his honours, also to disavow the lost estate from Eden, and maintain the perfectibility of the race in the flesh; forgetting knowledge can only be an edge tool of greater force for the arm of a wicked infidel resolve, unless the heart-renovating power of truth awakens the graces of holiness, love, and reverential fear of God. Otherwise the Bible itself, and the deeper biographical impression made in its behalf by the cross of the good and great Redeemer, may, by the mere gregarious association of men, be turned into a leaven to aid the unsanctified systems of proud human genius and native force of hate. Truth must, at first, work on the more simple and manifest evidences, and so God began in Paradise, and we, directed by Him, ever do so for childhood, giving a mental training to obtain a good soil from his Spirit's use of things made and tangible to sense, to establish the impression of his omnipotence, omnipresence, and authority, as one God, a Spirit, in all, and through all. Thousands, therefore, who may never even have opened or seen a Bible, are, through the attainment of those who lived before them, and others now around, educated in part, and indeed, by the floating conviction of ideas and their secondary influences, *must* be intellectually advanced, now that the Word of God in Christ has by the Gospel gone out to the ends of the earth. Where its direct object has again become lost, this result is still there, as a testimony against all. The subtle woman's mode of using the leaven in the seed by perverting its meaning and claims, soon, will so fill up its cup of iniquity as to the force in all its results, (MATT. xiii. 33.,) as prophesied of, by personal concentration and ability. (2 THESS. ii. 8.) Christendom, so called,

is in this respect one Bible Class, as the recent scientific discussions have shewn. Hope to upset the claims of the Bible has been the chief zest of many professed scientific enquirers. Confidence to establish it, that of the faithful to Truth. The one will, and the latter, in duty to God, to check the evil, must work.

Faith can only exist in man, as God has constitutionally fitted him to receive it, by just conviction on the mind, and its alphabet is the simple and manifest. But these, as the first creature objects of desire and enjoyment, by their necessity for proper operation to shew a God of love and power, may become the all-satisfying idol; so, the pursuit of knowledge about them may be a delight, whether their sweet blessing for leading toward the rule of God in love is attained or not. Still, for conversion, their need and value is absolute; by them alone can the first impressions respecting Jehovah in his sovereignty and Godhead claims be made known, so as to lead the heart to receive that word and work which teach doctrine and knowledge in grace to wean from things, as idols, unto God in Christ. Had not the Bible been so certain about the ancient importance of Nineveh, no cause existed sufficient to awaken the line of heavy research which brought forth its antiquarian riches for our museums.

Knowledge is also a means of power in man over his fellow, so that ambitious minds seek it, as well as a means of gain and fame. The man of immense intellectual assiduity may be no more desirous of it for the glory of God, or good to mankind, than the inventor is of the public ease, or the glutton of the publican's fortune. It often is entire selfishness.

The preaching of the Cross, as the end for which God meant all primary intellectual gain, to regene-

rate us for the consideration and acceptance on all the lines of truth, is sure to test the soul, and bring out the real spirit of pursuits. Then, too often follows the Cain-like, mere natural-will impulse, of an early religious profession, ending in an entire open devotion to material sources of pleasure, in displeasure at God's humbling way; and the creation question is demanded to be separated from the theological, the spiritual from the secular, as though God's end in the one could be attained, without the unity of all his works and ways, as one God by one polity, over the one and singular being—man, (be his attributes as many or various as they may,) being seen and felt in the heart unto Christ. Was there ever a man yet, full of love to God, who did not have the first impressions of his glory through the visible things made; and realize that one God, as his own creator and provider by these things around? How is man to know who and what He is who convicts of sin, but by knowing the moral law comes from that Creator of All? whose glory is shewn in the things made, and sweeping so magnificently and suitably around us, to shew power, order and love. As, therefore, knowledge respecting the Creator expands, how requisite that the face should be lighted up directly from the Word of God, as of a testimony he is perfectly interested in, and has

NOTE.—Then as the just claim of God to be our admitted lawgiver is, that He is a known first cause as our gracious and wonderful Creator, so He prepared a claim that Jesus be received as the true Lamb of Sacrifice, and High Priest at the fulfilment of the prophecies given before his day. Hence, at Christ's instalment into the kingdom by his glorification of the flesh, his pillars—the law and the prophets—are represented by their proper personalities Moses and Elijah, the main supporters of the Kingdom of Truth in Him, next to God's creative power.

made complete as from Him. How necessary that the most subtle, or most openly daring objections, respecting conflict between God's manifest works and his revealed word, should be tracked, as foxes to their dens, which spoil the vineyard of the Lord, or hinder its future prospects of fruit in the generations to come—there strangled. It is no light duty, but is an absolute one, be the cost of time, thought, constancy, or money what it may. Be the report evil or good.

Yet even Christians have often fallen into that low estimate of God, in unity, as the head, by both his works and word, of the school of man, as to profess to deny the value of Genesis 1st as a correct synopsis and key to all science; *i.e.*, as the statement of what Moses calls it, of the "generations" of creation, a cosmogony, or first natural history. The geological difficulty has settled how far the Bible requires to be a teacher of material science correctly or not, when the part of it so referring to creation is given as direct from God under plenary inspiration, and not merely as an inspired history of what men may have said in his presence, like Job. The effort to set it right has raised up men, who while professing to have a claim to the title "philosopher," yet as haters and avoiders of the peculiar phraseology of the preacher, are continually canting at Mechanics' Institutes against the introduction of theological connections, but take care to prove by their line of argument that the whole, by themselves, is a means to undermine the first principles of the Christian faith in the Word of God. Phrenology has proved men have all leading passions, which infallibly tyrannize over the general desires and powers, and so increase the ruling force; *i.e.*, that science has echoed the voice of Scripture on

human incapacity for self rule, and so absolutely requires over all men as for this generic law, a power to act, on all, against this law of subjection to sin, with omnipotent force from God. His Word, sealed by personal inscription and by blood in Jesus. Men of that science at last got a gleam of the conclusions which must follow such premises, so after it had been the pet of the sceptics, and to them was rightly interpreted, we have heard but little about it. Geology was then laid hold of, but the demonstrations of Hugh Miller as to the processions of fossil testimony from the rocks, followed now by our own discoveries and evidence from the aid of the Bible, of the "Force of Light," as the centrifugal force, so long sought, and almost given up as a too secret thing, has, in spite of some remaining scepticism on it, to be in this part swept aside, led to the value of that means of support against the Bible warning, so that the statistical line has been now adopted as a sort of *dernier ressort* under the especial auspices of arithmetic, against the Mosaic account of Exodus. The efficient hand of the Rev. Mr. Berks, and others, have soon demonstrated the hopelessness of the sceptic's triumphs in that line also. On what tack shall we find the black ship and flag next? The pirate of the souls of men—miracle-working spiritualism, &c.? Babylon, Egypt, Tyre, Greece, and Rome, with the more permanent monarchies of China and Japan, all prove how truly the human mind may appear educated, while associated for ages with the most gloomy aspects of moral depravity, as the wild beast in heart. All nations, apart from gospel light, have proved the propriety of the emblems given Daniel by Jehovah, to shew human natural characteristics.

The American slave oppressions and other recent national workings of modern days, prove the hope-

lessness of mere civilization, by education, generating grace towards God or man, except by that added, which is the "power of God unto salvation." Nor would the conversion, if it occurred of all one generation, carry on one atom of its pure result by birth in the flesh to the next. The mushroom as it springs is like its first seed plants, whether in the millennium or not. The Bible is the only check to constant revolution and final anarchy, and the results of God's first revelation, the only conservers for what has the semblance of good among the nations since Babel dispersions.

True wisdom, from it, secures a working means to maintain national moral honour, as the few faithful ones are numerous and active in larger comparison. Thus moral self-respect may be in some measure stamped by divinely wrought self-command, over the passions, and the nation most largely sprinkled, will have the supremacy over other peoples. God himself sets the example, as of immutable truth, owning the glory of his power only established for moral respect, by holiness. "Are not my ways equal saith the Lord?" A moral ruler must be himself just, to have a claim or power to make others so. The revelation from Him, there-

NOTE — It appears in the history of the past, and the prophecies of the future, to be evident, that the "way of the Heathen" in all nations is to find its would-be evidence against divinely inspired authority—await its being prostrated, and then pick up the shells of the egg for some new pattern more subtle, so the whole force of materialism being upset, and hopelessly broken by the proof of the universal dependence on more help from Heaven, the Man of Sin attempts to shew he can supply the want, (REV. xiii. 13.) The world is already warned;—conservation of force in the human mental powers will be adopted, when the foolish present theory of conservation in matter becomes hopeless.

fore, of his own eternal standard as "The Truth," is a rich mercy for all. No man of science has a right, therefore, to expect me to separate the topics of this work. If the opposite taste is galled, the fault is in the owner, who demands inconsistency of principle and degradation in purity.

It is a principle springing up with the power to have offspring, that all the created necessities of the new "Being" given, should be duly supplied by the parent for the natural demand of all the faculties acquired in birth and growth. Could a creator—God, be fully "equal," and have neglected any branch of aid which every paternal image He makes is called to attend to? Can He have withheld a key to any needful improvement in the mind which man seeks as a requisite for every school, justly, on things we live amid? If, then, we find the history of astronomy, or any science, has been so wilfully, or even unwittingly perverted, that the popular view is most injurious to the true men of earliest professorship, as writers on these points, so that they have been robbed, with God their teacher, of their honours as priests of the great sanctuary, and that the first practical influences for good have been unjustly attached to others, then, not only is a sinful injustice done them, but a mischief to all who believe it.

Should any success be secured toward restoring the balance of thought, not only is valuable information attained, but also impressions will work which must light a lamp toward God, as "Love," and most certainly gratify the benign Being who seeks to fill the heart with the joyful knowledge of his many condescensions toward aiding his people in the path of all pure sources of true satisfaction. In success

NOTE.—In the Report of the Three Days' Meetings on Prophecy, in the Freemasons' Hall, May, 1864, the intelligent

here, every open Christian heart will rejoice and assist. Can man be more just than God?

A course so much in the path of the pious earlier discoverers and modern restorers, such as Newton and Copernicus will not detract from the value of their labours. It will merely sift the gold from the dross in their views, and leave the real treasure more clear.

The fact that loss has occurred, after the first beams of knowledge had been divinely suggested, will only approve the more highly the grandeur of their powers, while trusting through a cimmerian darkness raised by their forefathers in hate of all God's every sentence, especially as they were allowed no new direct revelation.

The question may be asked, How came it lost at all, if recoverable by the same race? The answer is connected with the same fact in other sciences, which the remains of wondrous simple but perhaps rather rough grandeur present in America, as well as in central lordly autocratic Asia, that the fall has been, and the rise has come.

God revealed his moral law perfectly in the earlier ages, but its power over history was not so finished as to establish love to his institutes abidingly; and the light of grace was declared in the truth, but

Christian naturalist, Mr. P. H. Gosse, says, while speaking of the signs of the times, and the sceptical opponents of the Bible on the creation question—"I would rather let others speak, but I do feel very strongly the havoc that Satan is making, not only in the world, but even among the children of God with respect to this question. I feel it is a very solemn thing, that the wolf is sapping the outworks of the fold, and the sheep are looking into one another's frightened faces, not knowing what to do or say." This is a generous and frank confession from one who in one work had such settlement for his object, and now seals its importance to be never given up as hopeless.

could not be so fully stamped on the features of time, as after that great fact had also been engraved on the heart, the Calvary work, previously only taught in covenant promise and types. Law is now livingly established in Jesus' example and command, "Follow me," for obedience in beauty, while faith alone in Him, as the substitute, gives "the Life," as ever.

Hence, the times of the Mosaic law, after the simple but glorious patriarchal, ecclesiastical, and civil testimony of Melchizedek, (that early one in the crowned order of the heavenlies and earthlies in one unity for glory,) followed the gradual submersion among the Gentiles of all the remains of Edenic and post-diluvian attainments, as proceeding from bad to worse, although the first settlers carried with them to all parts from Babel, great reminiscences in God's thoughts and truths of heart. Then came the Gospel in full.

The Jews were employed to raise the general voice of truth in all topics, and until their latter dark ages of departing glory came on, by their worldly love of earthly idols, they kept much grandeur of light extant. But in their latter days, before Christ, they left the pure fountain for their vain traditions by uninspired elders on all points, and so certainly lost all correct attainment in science. This declension ruined the last hope existing. God for four-hundred years left them to their sins, so that

. NOTE.—The significant veneration of the mistletoe on the oak, both by the Brahmins of India, and the Druids of the West, shew, how earnestly the dispersed clung to their most correct, but self-invented types of the promised heavenly branch, as the graft from heaven, mysteriously nurtured by the sap and root, strong in the covenant, and by the God of Creation's law, all pure.

in the hour of the Messiah's advent, we see how few truly intelligent, pious persons existed to hail his appearance with joy and correct views of his pleasure and redeeming power.

Rome was bloody, brutal, and grossly sensual. Greece was soon degraded even of what she had appeared to have like honour. Persia had lost sight of all she ever had—fierceness with splendour. Babylon had become an obscure and rapidly declining relic of sheer pride in the masses. So science became like religion, an imposture and a mummary. Literature, a feeble pool of dirty witticisms, with a gilding of impure and flattering history and biography mixed with romance. Nothing was trustworthy. To be able to write or read was soon to become a gain for scorn, and to be a clever human butcher was the way of acceptance as the beau-ideal of heroism, dashed with a little of Adam's love for females unto death. Restoration, however, had its means of awakening provided just at the crisis. It was done in that masterly way, the cause of the emergency dictated. God had already given a complete canon of truth in his Scriptures, as the Father of All, holding the progress of the school in his own hands, under the Word by the Holy Ghost. He soon sent forth that "Word" in covenant association, and divine membership with the race, (so cold to his own teaching from heaven as a Spirit God over all,) to act on all the home and natural sympathies of the human heart, by precept, example, beauty and purity, seen and made attractive as in one of the race.—Man ennobled to a fellowship in nature with God,—Who could not be tempted with evil,—The marvel of mind, heart, and comprehensive genius—The incarnate Word, and its perfect impersonator in human duties and present responsibilities as

needed by the fallen, and otherwise hopelessly degenerating lost race. The righteousness provider for all. The work was to be such a work, that reaction, by divine action, where it had been most feeble by other means, was to be established. It was to be a work of crowned security. Divine dominion wrenched from further retrogression in the believing all, as a body by the powers of its Head triumphant, whatever especial enmity it might call out in continued impervious children of sin. Thus, the work and word of Jesus received the formal titular of "The Kingdom of Heaven." The glorious honours and beauty of which meaning many of his own people are circumscribing, as belonging only to a phase of the crowns inherent in Him, although dispensed in a measure in the Word, in all administrations, and thus condensed in this last. For in Him is One Spirit, indivisible in the church, though subject under God, to various aspects of many operations, and so He correctly changed its peculiar operators at different stages of the married "double" belonging to all the seed. 1 Cor. xii. 5.

Jesus did not say much, as far as is recorded on natural laws in physics. It was not needed. This theme belonged rather to the lower standard

NOTE.—Although the glory of the latter day, in the expansion and sustentation of the work of God, has been greater since Calvary and Pentecost, yet as to individual effects for glorious services, the direct communion with God the Father in earlier ages raised up men, whose claims to stand nearest Jesus, as true servants of the way of trial, have been but seldom equalled, except in the immediate fruits of early Christianity. Nearness to Christ in the Church for the kingdom of creation, will be the reward of the real, in comparative service, not a mere matter of time in the birth, invidiously and dishonouring the Judge and Rewarder of men. REV. xxii. 12.

of those labouring before Him, in less acquirement of the spiritual and heavenlies, arising in Himself from the *de facto*, as well as *de jure*, union of birthright in God of man, above this earth's first estate, yea, above the standing of angelic creaturehood. Sons of God by their birth in spirit, believers were ever, as to eternity, in legal and personal spiritual union with the Father. The children of his own divine nature as God. Sons by regeneration's glory. Jesus, however, used natural laws and things so as to shew their purpose, theologically and doctrinally, as speaking types, in all their order, under the conflict of Light, against inertia and darkness.

He loved, and shewed love to all. He took the lowest position of honesty, to secure the sympathies of the lowliest orders; while his illustrious earthly rank by descent, secured, even by its abeyance through the past misfortunes of his line, the most effectual interest in every honourable aristocracy. His angel-proclaimed-and-chanted divine conception and birth, secured the most solemn influence over every pious—to even the ascetic mind. He lived a life of spotless purity after a most solemnly interesting series of strange dangers to his childhood, and so God kept all scripture-reading hearts alive to the prospect of what his manhood would develope. None were disappointed. He excelled the most excellent judgment of the sublime and beautiful. His generosity knew no bounds but those of true usefulness; and his voice was a living charm to the good wherever He moved. While his power in the field of his birth, to secure peace, in perfect harmony with all God had ever taught by the ancients, in the most troubled sinner's soul, was accompanied with such manifest commanding power over all the vital resources of physical associations, as useful to the

mind for the body it dwelt in, and was practically proved in some wondrous act of fellowship with God the Father acting in all, that he became manifest to his disciples, at last, as the same "Word" by whom all things are made from the eternal Spirit's creative energy. Of course this brought out, and only increased the enmity of the jealous, the mean, the selfish, the inveterately time-serving and worldly, until the intensity of the animosity, having no hindrance, put forth by his miraculous power, (or God's, as his faithful protector,) brought Him to that mock character of trial the age was prolific in among the governments of the day, and his atoning blood streamed over the earth He had blessed, with the voice of One commanding the resurrection of the dead. But here was the finish to the grandeur of the plan for sovereignty in moral glory, sealed. (DEUT. xxxiii. 21.) It fulfilled the Scriptures as to God's own abstract claims on just law for the guilty in substitution. This was made plain by his resurrection and teaching after it, and in that light, his history and its purpose was to be proclaimed over all the earth. Hence, love to God's word was secured in restorative relations to numbers over that surface; and thus gradually the conflict of the constantly arising, Christ-hating, opponents of truth, to undermine this "love-kinged" influence and its spread, has only added to the active force of all the means of grace, simple and direct in his followers, to search out all the treasures of truth therein revealed. The geological, phrenological, arithmetical, political, and statistical labours of sceptics are therefore only the infallible sin-slave's free agencies, (so called,) which, by the law of moral action and reaction, raise the triumphs of the eternal Word of God, which, whether it be to enlighten intellectually

on God's wondrous creative power of simplicity and wisdom, or other line, "has gone out from his mouth," and the termination of the age will not come, until it has, as appointed for it, under the commands to "Search the Scriptures," and "Blessed is he who hath not seen, yet hath believed," accomplished the work whereunto it is sent. It is of no use therefore for Christians to shrink from studies of difficulty. The prayer of Jesus, and that of Paul, are both yet on the boards of the heavenly altar before God for the Church's attainment. (JOHN xvii. 17., EPH. iii. 14, 19.) It is for her glory and honour the wicked are allowed their character of freedom to work the works of hell.—ROM. v. 3. There must be heresies as trial tests (MATT. xviii. 7.) on faith and grace.

The earth's log-book ought to be kept correctly, because God is seen in all history. The discoveries connected with the magnificent fleet of coursers which form part of, or are steered by the "milky way," with all the laws of the material heaven, are points worthy of this. God works in all. He is there in every speck, speaking about Christ to man. On the ennobling platform of thought, in which the elevating influences of this study are ever held, Professor Mitchell of America said, "No one science perhaps, so perfectly illustrates the gradual growth, and development of the powers of human genius; the movement of the mind has been constantly onward: its highest energies have ever been called into requisition, and there never has been a time when astronomy did not present problems, not only equal to all man could do, but passing beyond the limits of his greatest intellectual vigour. Hence, in all ages and countries, the absolute strength of human genius, may be measured by its reach to unfold the mysteries of the stars."

As to the sublimity of the science we agree with this report, and it must be self-apparent what the mischief must be, if in our schools, all the instruction be an effort to inculcate the idea, that these successes, such as they may really have been from the first start and rise, had their rich foundations of enquiry laid by the heathen, instead of the Almighty Revealer, and his servants the Prophets.

The enormous mischief of what pertains by such idea, is proved in the practical result, that the names of heathen devils are always chosen to designate the stars, let a modern discoverer and his Mæcenas use what influence they may to alter the custom. Yet we have already shewn, despite this prejudice in favour of the lower order of classics, that what the Egyptians and Greeks knew not, Job, David, and others did, as well as Moses, so as to engraft their views for the correct, scientific illustrations of their spiritual songs and poems for which object true views of nature are required. Solomon, the man of fullest attainment in such studies, has had but a small part of his writings preserved: a sufficient proof of what constancy there was for progress in these topics alone, by the measure of fitness in his successors to be the librarians.

Let us conduct prince or peasant, lady-philosopher seeking pure instruction for her young pupils, or acknowledged savant into a small part of this fretted tomb of the past youth of science, filled with the sweet scent of almond flowers, and the dried leaves of Sharon's ever fragrant rose, the bloom of the pomegranate, with its vegetable rubies of Eden, enclosed in a hanging golden casket, studded also with the finest faceted jewels of creation's testimony to love and thought, and in a few of the driest sentences of these sage spirits, we shall find, notwithstanding

their failures in practice, some serious principles about astronomic resources, with those of general physics. The sublime simplicity, and unique co-operative power in the vapour-rising and condensing forces of light, with gravitation particularly developed as the law of the solid, are distinctly recorded in the following passage, shewing how certainly the centrifugal force, used by God over all, was known to the wisest king of the East, to be the same, we proved, by the laws of certain thermal ratios according to mass-draft and chemical associations, in the first parts of this work, and the law of calorific discharge, according to the mass pressure of the body, ever demanding an equal supply from without. Our first essays on Thermal Dynamics of 1860 and 1861, Solomon says, "What profit hath a man of all his labour which he taketh under the sun? One generation passeth away, and another generation cometh: but the earth abideth for ever. The sun also ariseth and the sun goeth down, and hasteth to his place where he arose. The wind goeth toward the south, and turneth about toward the north, it whirlleth about continually, and the wind returneth again to its circuits; all the rivers run into the sea, yet the sea is not full, unto the place from whence the rivers come, thither they return again."

NOTE.—It must be ever useless for Christian writers to enter the lists against sceptics, if they allow themselves to be outdone by them, in keeping truthfully to the simple grammatical necessities of the text, or to own a principle which they give up when it suits their own difficulty. For instance, if we own, as has been done by one writer for the faith, that when a numeral order of enclosed measures, or fences, is used, that order is to be kept; of course, it is as absolute for the first, whether a day of Genesis, a horse, or a seal of the Apocalypse, as of the following. Otherwise the first is not first, and the second cannot therefore be second, &c.,

Simple as these facts appear (as was necessary for their purpose to illustrate a book of popular proverbs,) yet the grand law of evolution by efflux and afflux, in the universally sustained return of the hydrostatic level in the winds, waves, and currents of fresh water, in one constant circle of the diurnal and annual period, shews how fully the writer grasped the creation system of gravitating impulses under the chemical solutions of light for constant restorations; that only sweetener of the old in nature; only sustainer of motion against gravitation settlement to equilibrium. But here comes the struggle for wisdom with modern men of science. Did this teacher only imagine a recurring action and draft in all tide-law? (as they have hitherto, of nature performing a giration of circles by her own attained measures,) or the truth of eternal supply and support in the new for its need?

This point is settled when we notice one corrected part of the translation, found in the marginal rendering. Then shines forth in a rich ray of light, the mental power of the Sage of the olden East, as it streams out in one significant phrase, proving his easy grasp of the true means to all this force, for the circle of nature in her changes, by the one centrifugal force. Increase in mass, and of fire by it. I once heard it said of some old woman, that on her first trip by train, she exclaimed of the steam locomotive, "See how the poor thing puffeth and bloweth!"

and if the first whole is not that one whole, apart and complete, there can be no rule for the others. Hence, also, if full value for the ellipsis is not admitted, that God saw extant, and good, to the state for the age or day, as a cosmogony, all before the evening and morning of that first day, all statements are untrue on the numerals for every part of each day, so as to place it in the comparative parts the whole time enclosed. The two parts of the third for instance.

There was more true philosophy in this than many exclamations which pass for thought. The natural identification in the lung-sound, when in action, by gasp and exhaustion, smote on her ear, as the engine strove at its labour, breathing in its cold, and expiring its volume of hot air as dry steam, according to the resistance of the luggage.

Solomon expresses himself in the same simple manner of the inaudible beating and breathing in the sun's great heart and lung-throes, as he sweeps along his gigantic circle, that typical almighty orbit, carrying with him his train of planetary cars for reserves in reactionary forces of strain and supply with the earth, her goods and passenger system of many wheels, and first, second, and third-class free and slave compartments, with all her new and old coaling, condensing and sufficient bowel-fuel resources; all supplied before man, the imitator, dreamt of such machines as locomotives, flying globes, or balloons, filled with light.

The margin gives as the literal rendering "The sun also ariseth, and the sun goeth down and *panteth* to his place where he arose." His own motion is thus united with popular appearance. The throbs of the human heart in its daily labour, and pursuit after knowledge and wisdom, are thus beautifully illustrated by the laws in the heart and pulse system of all nature, in its order for the glory of its Creator. How simple, yet how sublime! The heart of Jesus, "the Word," throbbing for his church and bearing her, typified. Would it not be impossible to suppose any great writer using such a phrase, if he had not the idea it was scientifically correct? Why did the first translators give a different version to the text, until we get it corrected by men, who humbly suppose, that God the Spirit is equal to literary correctness for the end in view, however minute? The first

translators could not affiliate the term at all with their knowledge in science and so rejected it. The last adopted it in childlike faith, but the same ignorance. In another passage, this thorough acquaintance Solomon had with the first order of development scientific nature required in her generations, is more fully presented as the path of wisdom :

The Lord possessed me in the beginning of his way—
 Before his works of old.
 I was anointed from everlasting, —
 From the beginning, or ever the earth was.
 When there were no depths, I was brought forth;
 When no fountains abounded with water.
 Before the mountains were settled, —
 Before the hills was I brought forth.
 While as yet he had not made the earth, nor the fields,
Nor the chief part of the dust of the world. (Marg.)
 When he prepared the heaven, I was there;
 When he set a *circle* upon the face of the deep. *(Marg.)*
 When he established the clouds above;
 When he strengthened the fountains of the deep,*
 When he gave to the sea his decree—
 That the waters should not pass his commandment.
 When he appointed the foundations of the earth,
 Then I was by him as one brought up;
 And I was daily his delight, rejoicing always before him;
 Rejoicing in the habitable parts of the earth,
 And my delights were with the sons of men!—Prov. viii.

* How could they be strengthened by natural law except by more matter to the whole substance of the body, so as to produce, both more weight, and means for more chemical coherence in parts thereof? To be elongated otherwise was to weaken. One writer has imagined altogether another order of natural law for the earth, before sin came in, because the earth's centre, if full of fire, must be a hell, and is so named as Hades. Might a great fire not be all good and ordained also for a Hades when wanted? The first Tophet of judgment? Is the force of heat necessarily no blessing or use for good?

In this passage we again see the superior view Solomon had of nature, and her refreshing resources of renewal for expansion and refinement, from that of those ancients who represented their views (sympathized with by modern materialists in principle) respecting the circle of changes, by those types of vain labour and agony—Ixion at his wheel—and the vulture-torn beast whose vitals grew, while birds of the air incessantly feasted thereon. Nothing new; nothing fresh; no growth; but all monotonous agony for change. The correction in the translation again shews us the old editors falling into mistake by want of a purer faith in the grace of submission to the literal dictation of that spirit the passage is honouring, as perfect wisdom. The dictation of even the least atom in creation. How much more needed for revelation? How sweet too and different on that truth, all experiment affirms, the need for eternal supplies of new matter from God to complete what the constant exhaustion by universal pressure on bowel-caloric yawns for * as an increase to the old dry dust of the elements of solidity and flow. No power of return exists for the radiating forces of life, except as they are swept in by the vortex energies of the new stream of sweetening. In the whole passage the universe is presented to us as springing from the will of One, with whom creative

* A curious illustration of revivifying by chemical associations is described in a clever paper of the Oct. No.—1863 of the *Technologist* by N. P. Burgh, C.E. It is in reference to the manufactory of bones. Bone black is used to refine sugar, and the same ash can be used over and over again by the aid of a cheap boiling solution of sulphate of lime. Light has this power as the alkali of all inert physics and by boiling also, but the experiment requires the new enforcement from the experimenter in each case. Exterior leverage by new corpuscular supply at last required.

power is eternal. And here this spirit of regenerative renewal is represented like all doctrinal systems of the apocalyptic vision, whether about the true or false, *i.e.* by a female personification, which is never the case for the Trinity or the One Word who rules her path. By her the Elohim (us) of the whole in Eden, develops beauty and bands. Light and darkness. Gravitation and the convex curl of finish by flowing caloric or its agents—lovely contrasts of rock and glen. She speaks as being eternal with God and yet as the Spirit Aspect and true Œon, the queen over all the processions of time, which geology, phrenology, and all the sister abstruse sciences can only depict as perfection in all her works. Wisdom as seen in natural science is from God. Solomon makes this wisdom spring up as in spirit of time from the womb of eternity. Born as to action in creation, but eternal in essence in God. Full of all glory and sublimity. Silver light scintillating in the sunshine of truth, sparkles on her wings, and is rich with diamond showers of all crystal gems; em-purpled as the amethyst, burning as the ruby, irradiscent as the opal, and loaded with the overlaying of gold like the ark of the Jewish tabernacle, while all the angels of light look down and sympathise with cherubic intensity on her sublime works and final covenant results, for God feeds her system with light so

Wisdom hath builded her house—Creation

She hath hewn out her seven pillars—Law and prophecy
fulfilled in perfection

She *hath killed her killing.* (*Marg.*)—Redemption by free
grace, in blood

She hath mingled her wine.—The descent of the Spirit with
perfect peace then and for ever

She hath also furnished her table.—New creation glory.

Her greatest work was Jesus, the slain one, in

whom the seven pillars were made complete; for He was the work of the seventh day of creation. The attainment of the moral kingdom of heaven in man over all. She traces her creation aspects by cycles of ages, and recounts by their vastness her satisfactions, as the work of her God, who she delighted by labour to honour as He used her for these successive mundane labours and astronomic expansions, in Christ.

In her sketch, she pursues the order of truth and time. The earth unformed. No just contrasts of height or depth. No fountains of water at first existing. Then they flow. Mountains appear—hill, vale, and field. Then the bells of the fourth day strike out joyfully, and the astral system of the plural heavens shine forth into being, while the strong gushes of light requisite, fill the azure heaven with raised clouds of glory instead of paler beauty; and all through these grand processions of creative increase to matter, wisdom, such as has been crushing the powers of the human brain to conceive and unravel, pondering over it in atomic manipulations of chemistry, or as the observations by the telescope present, was calmly pursuing the path with omnipotent ease, for all was the work of an Almighty Creator, the Father of all conception, and developed pure design by simplicity in this grace. Love in Him, meanwhile, being seated as a property in matter, not to mock the mouth of the whole creation, which had the general craving of a body ever inclined to sink in the chest to death, by the property of corpuscular attraction, but to feed its so generated hunger and vast outward passion *en masse*, and satisfy the most refined atoms by a milky material, suited in a power to compound for each part all demanded for the awakened sense of desire and need. Here ambition for the infinite in expansion in space was energized by the constantly added swell

in light, while secret refined taste was beautifying, adding, expanding and diversifying all the measures of the interior developments, on one grand scheme for a unique cosmos of consistent generations. Positive faithfulness to natural covenant in law by benevolence.

The grasp of the idea, on the growth of size in space, was to eternally expand toward the omnipresence, and in refinement to proceed gravitationally toward the perfect refinement of God; but, as the finite cannot compete to equal the infinite, vanity was, as the apostle Paul and Solomon both declare, the result of this glorious desire to be like the Father. Yet the principles shewed desire for the spiritually full and pure, and thus became a means in the material of the body to shew the ground of the only way in such truth and life, to be by a foundation in birth for the whole, (through a man its created covenant head,) of a spiritual new birth under the essential word of God in the moral soul. In the expression—"Nor the chief part of the dust of the earth," (*marg.*) we have an allusion which loses all its force, except as it applies to the law of constant growth, as one of the universe: *i.e.* that as opening chemical cohesive power requires greater measures of aid in pressure, to support the outward in effort, and a means of greater stability in the increase of the mass must be obtained in the centre, or collapse must ensue, as all experiment with solid matter under caloric proves, and this must be on a gradational ratio with all the other properties at work—hence, the endowment of light, with all these properties in exact equal proportions as of units, in ratio of all for units in mass, would secure this perfectness. In any constitution, dependent on vital circulating stability in the system, the extension or condensation of one property as a whole in the body, (as chemical bondage and refinement, for

instance, has been in this earth, which geology proves,) and the neglect of it in any one other case or property, would be to upset any law of order whatever. Mass must, therefore, as Solomon's words suggest, have been subject to immense increase since this earth begun her course. His words are verified by his opponents. Every engineer knows this need of greater confinement by mass of the plutonic heat for the formation of the more powerful engine, and of the greater mass of corpuscular atoms also for the body of the machine, as well as for the great refinements in many dependents, however true that the elastic superiority of chemical cohesion may by its own increase of property-power give some conservative advantage. If it did not on parts, of course it would be useless altogether, as a property to produce variations within the mass of parts on each other in rotation. Sir I. Newton not only is said to have had suspicions, and so suggested as a mere hypothesis, that light was corpuscular, but that there was a universal medium. In both he was correct, and being the discoverer of attraction as a general law, of course, we can easily see how his strong perceptive genius would observe the difficulty of nature getting on in other terms. Further than this he made no progress on these points, and so only presented most impossible and incongruous associations with the suggestion. His idea of the chemical power of light proceeded only to the effect on mundane minutiae. As to the astronomic truth and value of its being the Centrifugal Force, by which globes are raised and whirled in space, so far from having any idea, he suggested another cause for their apsis returns, so that as to modern days, our own has been the first on the stage altogether, and the only one the least connected with practical demonstration from known experiment.

Doctor Tyndal's "Work on Heat" appeared two years after the first parts of this were circulated in a great variety of places at home, and had been sent to scientific associations in France and America. It fails where it is against us, but is entirely as we shall shew, all on our side in the experiments on fact.

Solomon however appears to have well perceived the fact, if not the scientific necessity for the increase of that mass in the universe, which Tyndal denies, whereby comets are constantly being more often discovered. The clouds without water of Jude's symbol for false prophets of even the higher region of the Christian spiritual era.

The translators did not accept Solomon's letter at first, simply because they could not, with their scientific views, comprehend its beauty or truth to fact, whereas, the connection of its being not *made* following with the allusion to the solid earth, or the upheaved "dry" of the third day—and its more perfected state, the soil-prepared fields—all admitted facts of cosmogonical progress by the geologists, shew he meant this chief part of the earth was not at *first made*—but added later, and as mixed with the germ of such increase of the foregone, was created, or made, before being seen in the fields of soil, and after the earth's more crude foundations were extant realities. The expression "*nor*" being here used as we use *nor* even, *i.e.* conjunctive and anterior. Hill formations, as chief by position, were already referred to. Where is the pump force to be found (and the whole of the earth's system is of a pump reaching to the centre for its fulcrum) if gravitation be any law worth considering as general at all? Where is one by which you can eject any part of its attained mass to a greater convexity against the inward caving of

gravitation to death* or even maintain, against corrosion and corruptive wash reductions, the present height, except by an outer leverage force in the corpuscular, or gravitating mass, as solid in real weight, from a vertex law of power over the centre equal to the work by the column of the leverage and command of the greatest pressure? Is there no sound engineer among our astronomers? Can we separate the sciences? Blush ye savans, who would expel these ancient sages from your halls of scientific exposition and testimony, and at the same time expose each other's busts, and those of the drivellers of Greece and Rome, as your associate candidates for popular admiration.

Wealth, to be true in the covenant of this creation, must be real or solid, but for solid wealth as an increase of atoms of weight, to be useful, it must bring with it the new equal ratio of all the properties of correct circulation as of forces also. It is an absolute law of the true, whether in physical or moral attainments—of money or knowledge. Incubus or mad riot follow the loss of such ratios. Among the curious refinements by apt illustration, Solomon has the following (Prov. 20th.)

“Divers weights and divers measures,
Both of them alike are abomination to the Lord.”

* The reader will remember, as confusion often arises from using terms in a loose manner, that the term convex is only used here as seen by the eye of God on his pronouncement of “all good” i.e. as the power of life in the rise-swell of the curve outwardly. It is not wise to make the human position a rule for the use of the term as descriptive of law and power in abstract physics. So confusing is a want of abstract correctness in terms, that the form left by a running stream on mud, or an extinct volcano will be called by the same term concave as the grand outward life-swell of the heavens, just because puny man looks into its hollow. Yet one is of death by inertia the other life by light.

But the improved rendering gives this

“A stone and a stone, an ephah and an ephah,
Both of them alike are an abomination to the Lord.”

And the succeeding parallelism carries on, and so explains the idea, exhibiting its beauty when literally submitted to by translators.

“Even a child is known by his doings,
Whether his work be pure and whether it be right.”

The impression of the first translators about honesty is settled beforehand in Prov. 11th, thus:—

“A false balance is abomination to the Lord
But a just weight his delight.”

By these translators Solomon was made to repeat his parallel without variation of meaning—sheer tautology—an error never committed in the Bible. A return to any old truth is always connected with at least some new relation, and expression of some new feature of it, unless it be by several writers for verification of many witnesses. It would be a grand attainment in letters, if any other book was so compendius, and yet so rich and rare.

The human feature in the Bible, by the instrumentality of men, with peculiar views, feelings, and failures, is never allowed to vitiate this law of supreme perfection in the Teacher, when providing a book as his own by dictation, inspiration, and final adoption.

The poverty of aspect is therefore thrown back in the lap of the first translators. They were neither sufficiently up in natural physics, or of such strict simple faith to Solomon's inspiration to submit to his selection of terms. God is perfect in the science of

philology as well as all others, and the Bible is his sample and proof before man, by the original text.

The object in the 20th chapter is to shew the absurdity of an exchange in things which are exact equals, or their constant repeats on the law of the pure circle for the years. It would be worse than puerile, it must be a law of annihilation to just historic distinctions as of a ground in progress. Use and beauty go with variety in time-fitness by growth, therefore the motive force must preserve power to compel the elliptic circle, which is above the pure square for it, and yet work with it. If children play at shop-keeping they do not give sand for sand, or stones for stones, it is effort without refreshing. Novelty is a thirst justly innate in nature only to be measured by God—otherwise like the talent buried it is one received, and the same returned—no business being done by time. No moment, or motion, on means ever new and old, leaves anything in nature's sublime system of vitality without an equivalent for the time and force spent for improvement. Two branches or two leaves are never found, even on the same tree at one time, or in the same place in two years, exactly alike. All the elements being at work as of a chemically elliptic system under the rule of increased ratios of mass on one centre, all are, however diverse as organisms from animalculæ to globes, worked on a law of expansion and increased refinement, or increased debasement by abuse in sin. Thus the Past is a just historic base for the Present, and yet the present is ever new on a birthright law of generations for improvement by the result of the opportunities of increase by time. A school as it should be. The geometer, mathematician, chemist, or engineer—yea, even the historian, must submit to *the fact, that actual repetitions in any two moment's*

measures on a centre must be dependent on accurate action on concentric rings of equal radii by the pure circle, where the final range must then be all of equal times and distances all through the year—but that an elliptical action based on the perpendicular rise from the centre by the rule of “more” with correct apsis returns shewing the elliptical rotation of properties still held to the final law of the pure circle in principle, for the body on itself, does, and must render two fac-similes anywhere impossible. Catch me again, if you can, say both the times, aspects, and means over forms in their conjunctions of ratio for the properties in either the same, or different places by time. The law “more” being, in right use, the means to the “better” for ever. Every materialist may find in the laugh of the fresh green, and the form of every bud of spring the whereabouts of nature’s manna of supply, however well the old be worked in. The verb “to feed,” cannot be separated from those of “to be,” “to grow,” and “to move.” The action of a sudden loss of the weight on a clock, shews how correctly the leverage must be supported by corpuscular action in one line of flow, if any motion is to be ever forward; and the law, if gravitation be worth the study it has received, must be true for the earth on her diurnal motion, and the universe, otherwise the wave-line of beauty must assume for her a claim to Byron’s famous apostrophe and illustration over Greece, toward death also.

The idea that one atom of ether of the upper heaven, or of light, is other than a molecule of some solidity, is simply to set on foot an effort to upset Newton’s discovery of gravitation, as a law ruling over this earth herself much more as universal. It is measuring God in his covenant power of atomic, *fractional, necessary, instant refinement, by our powers*

of sight and touch, on which we depend. The animalculæ which quarrel over what we cannot see or feel, and then eat the parts and reduce such parts to more refined atoms by digestion, are only means to shew us a path of fact as a light toward the idea of his infinity. Doubt his power to eternally subdivide atoms as halves in size and weight, and ever adding, then you doubt the existence of any being worthy the title "God" altogether. Creation has not led you to Him but you have allowed its wonders, so leading, to blind you sadly. You measure Him as the peasant does your own discoveries by the microscope, as not of the real but only the imaginary. Too wonderful to be believed.

Nature, too, here figures the moral destiny and means. There could be but one first Adam on one only earth; and but one Christ in covenant-gift to the race, as there could be no spiritual tautology in the testimony of God to Himself in things wrought out in time; so there was a known peculiar body of intelligent creatures, presenting a distinct line of covenant goodness as those who could be sealed to eternity by having never lost their first estate, the angels. Man's greater need brought out things deeper and new in grace, with the necessary connected truths of law unto simple obedience seen also over the angels. The geological, gradational, and successively improving fossil features teach, how truly this law of infinite variety (so that no fac-similes ever occur in eternity to confuse recognition, or a claim for relative positions around the great circle of final glory) pertains to wisdom. Yet there is room for generic unities. A father desires to see his own, and his wife's likeness in each child; twins we admire for their mutual likeness also, but perfect exactitude is never found, and would produce certain confusion, whether

of face or property. Rays of light meeting radiated ether, and in a vacuum, produce no colour; so water dropped into water of equal character could only produce motion or draft by pressure, and addition of mass. Colour is produced by chemical operations of light, as of pure white on matter in different states of darkness, or blackness, which last colour is the effect of powerful resistance in masses by density and chemical dissonance for conduction of the rays, so that the fullest evidence of resistance is seen in the colour attained. The resistance to light, like its moral anti-type, becoming a marked thing, or according to the feature of action more dark. To obtain a vacuum is simply impossible to man, as the passing threads of light and ether will find their way by their own peculiar property, whereby all the force of circulation in the universe is made and secured, i.e. the burning or penetrating faculty to make pores, without which as the lightest of all gasses, they must have simply been drawn to the surface of the universe, and then have settled in one ocean of vapour like the luminous cold light of the final heaven at last. To test light on corpuscular grounds, the whole question is, does it act under the common laws of draft, so as to be governable in line, and so produce draft or motion on other bodies, as the idea that a non-corpuscular associate could fully displace heavy bodies without altering all nature's mutual relations of gravity is absurd, and simply upsets the law of gravity, or corpuscularity in them, as well as in the stream of all things in change itself. Thus the

Note.—It appears by philosophers of the day to be forgotten that it is only for our eyes to be made as microscopic as those of some insects, and we should see the proportions of things the same, but size altered in each. Why? but because size is a mere instinct of the mind sustained by God, and might at his will be altered *ad infinitum* to us, as to himself, if wise.

beautiful law of the infinitely wise God is, that no atom of matter can exist without power of draft, *i.e.* proper covenant influence on the generic law of its association on its fellows; and for this time, place, character, and circumstances produce the certain requisite distinction for his peculiar consideration, love, and care, to order its place, path, and resources as of conscious personal concern for it. What beautiful laws leading to the enjoyment of the praise of God do philosophers lose, by hasty rejections of important truths, or half reading their lesson book in Nature and the Word. Order, procession, and distinct individuality with all their claims are written by "Law" for the least atom of light or ether. But the feature may be too indistinct for our observation on one aspect, and so we must find it by another. Weight, to cause motion and obey its laws is one over light, or it would not rule inertia, or shade out darkness. Who can tell, as a stranger, when two flocks of sheep meet, which will find the future leader? wait—let them pasture a day or two and the proofs will soon be seen. Who can tell the exact level of water by the eye over ground? turn it on and it will shew by motion. So of the corpuscular physical force of light—turn it on, and as a lever it moves all things. Power over the position of other atoms which have inertia, must, in inanimate nature, prove the possession of the common attribute, weight, or we may doubt the same evidence anywhere. Doubt

Note.—All the recent testimony of Sir J. F. W. Herschell, Bart. in his papers on *Light in Good Words*, 1865, shew light by experiment submissive to the common law of mechanical government in the ratio of the square for the time circle and the cube with the square for its real elliptical action. To *talk of its mechanical or vibratory accuracy to law on other ground is to beg a question unproved in physics as possible, unless it be admitted to be corpuscular, or having weight. So of its polarization,—Ruled by law common to weight.*

one sense, doubt all. If sight, why not feeling? The beautiful laws of fructification by pollen in plants and their scents, are proofs of how minute yet distinct the rule of chemical sympathies is for invisible and humanly intangible operations; and yet how all depends on bodily enforced properties, *ad infinitum*, in every aspect of the common generic laws of natural association, by the omnipotence of Jehovah. To return to Scripture on astronomy. There is now a passage which though often quoted poetically, cannot be here passed over in its scientific sense, in which I believe it has never in modern days been noted. It is the song of a pious triumphant woman, who, although it appears she was not an unassisted composer, was, we may opine, superior to Barak, also in having the richest heart of faith and mind for thought in God.

It shews us, at that early age, attainments far beyond the modern measure, until of a very recent date. The idea of any other motion of the fixed stars, than one of the singular number arising from their supposed fixture in the solid crystalline sphere which swept *en masse* around the earth is, with us, but of very recent conception; and only more recently, after the earth's and planetary motions were defined, they were entitled "Fixed Stars," from the supposed fact they were motionless. But beside the testimony to individual motion in the stars, we have a general acknowledgment to the universal association of material physics in them, in connection with the earth, not as a foolish dream of astrology, but as a scientific fact for a poetical simile,

Note.—It has been before observed in this work that light is here spoken of as the outer and the solar ray or stream. *Light* and its causes are mental by the united action of matter and mind together.

more than a thousand years before Christ, and some hundreds before the fall of the scientific tide of thought. Under the age when Ichabod was stamped on Jewish progress, Deborah sang thus;—

“The kings came and fought,—
Then fought the kings of Canaan
In Taanach by the waters of Megiddo:—
They took no gain of money,
They fought from heaven:—
The stars in their courses (margin paths) fought against
The river Kishon swept them away, [Sisera.
That ancient river, the river Kishon.”

By the perversion of this beautiful allusion to the universal association of all the universe (under one law of the “Good,” in the hand of God, over our diurnal motion,) we may easily perceive how the ignorant would take a false idea, and breed the mad fancies of the astrologer, until they became, in the decline of true learning, settled into human general conviction.* The educational state of the Jewish female schools in that day appears for composition, morals, faith in Jehovah as the divine watcher and ruling blesser of the truthful by all things, and correct scientific view, such, that it is not very clear we can now say it is equalled in our most lady-finishng seminaries. But Geologists had not then taught girls to despise the books of God’s prophets

* Yet may we not say, that astrology was wise, as of some unknown spiritual power, to the ideas of men, who own a minnow over a precipice is sure to fall, even if air fill the space between, and with a velocity increasing under the whole mutual attraction of it and the earth, and yet that a vast planet, with the same united force of mass for junction with the sun, may by natural law, be stopped, and turned, and raised in distance, all by nothing, in empty void. The danger to a minnow being instantaneity to doom. How not to the globe?

as the proper basis for a correct and full improvement of the mind, as well as the heart. In science and all things, thrilling indeed must have been the force of the idea, after such a victory so won. "The stars in their paths fought against Sisera." No particular titular one, but all as an army, as these primitive students of science by the cosmos of Moses learned, and so joined the melodious exultant treble of Deborah—the female heroine and prophetess—to the rich bass of Barak and his soldiers under the magnificent vault of that vast, pure, sweet heaven of Palestine, when the eve drawing on at the close of battle, the stars shone out to aid, first the pursuit and then the repose; aiding the vibration, by the atomic union of ether to the furthest confines of matter in space by gravity in a volume. The song was of course composed so as to be understood in its full thesis by all the intelligent who joined in it, as all songs must to be suitable. The actions of men affect the farthest star and the law reverts. Such scenes of pure and true humility, such deep pathos and rare facts, connected together by such transcendent poetical force of expression, with such correct use of natural symbol, in the highest order of nature, are only to be found amid the narratives and lyrics of the people of Jehovah triumphant.

The book of Job gives abundant evidence, that although the effect of inspiration was sometimes to overrule the expressions of the prophets to mean more than they fully understood, as relating to the Christ, yet it never made the speakers, or writers, especially the singers, mere automatons, or like Balaam, tools of power, so as to express what they did not love, while they collected their symbols from natural facts. They are honourable evidences of *the powers of poetic composition then extant.*

From this last book we will now quote, and at first a passage which shews a clear acquaintance with the great convulsions the earth has undergone in her geologic cycles, and one purely astronomical—9th Chapter.

"I know it is so of a truth,
But how should a man be wise before God? *
He is wise in heart and mighty in strength :
Who hath hardened against him and prospered ?
Which removeth the mountains, and they know not,
Which overturneth them in his anger.
Which shaketh the earth out of her place,—
And the pillars thereof tremble.
Which commandeth the sun and it rises not ;—
And sealeth the stars."

Now all the vision, in symbolic use, is as from physics to morals. It regards the law of the earth's

* In the Publisher's fly sheet advertisement of the works of R. YOUNG, Esq., which has just now been sent me with other things, I find on the other side this rendering for one part of this speech of Job's for the New Translation of the Holy Bible, according to the "Letter and Idioms of the original languages."

"Who is removing mountains, and they have not known.
Who hath overturned them in his anger.
Who is shaking earth from its place, and its pillars *move themselves*."
i.e., are organic vessels under light and gravity like steamers.
"Who is speaking to the sun and it riseth not, and the stars he sealeth up."

Here then we have not only the past, but the going on, or from the past, the flowing present laws of God over and in nature, made the distinct subject; and plainly made of organic law, by ordered natural forces within the system, as the earth's massive pillars are said to move themselves. What wondrous beauties of wisdom on science might we not expect if this translation was perfect. Architecture, in a falling tide of intelligence, would always hold its heights better than any abstract science not immediately practical for general use, by the rule of first need, yet even that was lost in those eras in parts of America, although fine old remains speak of a better day over the same area. Its best spheres were always around the halo of light divine—Asia,

natural action under chemical cohesion and attraction, by acquired mass and impulse, (representing man's natural pride in the present estate,) but to submit in a generated will by the superior will of God for the onward and upward. Thus material immobility in first will teaches a moral fact in the finite creature. His means of action against the inclination of inertia increased by other agencies to stolidity are then given—one is expressed in the peculiar phrase as of a slow and unobservant action—"And they knew not," and this followed by another its distinct opposite, as to being a readily noticeable one—convulsive, volcanic, and earthquake energies, resulting in further phenomena—the observation of the sun and hiding of the stars. For the basis principle here, to be poetically significant and consistent, must be carried through, and it begins on the rule of what is observed or noticed by experience and sight. Thus the process of the slow decay of the mountainous regions of the earth under attrition, exudation, corruption, and wash, and the certainty that the highest and hardest rocks will not be able to resist these laws, together with the following great convulsions, which quicken the action into terrible grandeur, as these deposits, falling on the central heats, cause it to develop awful throes for relief under such a change in gravitation, are all points most beautifully sketched in this short passage of that old book, and it does not conclude before it describes the effect on the upper region of the air, so that the sun and moon are lost with the stars to observation, and the darkness is so great they appear not to have risen. The solar aspect being here named in subjection to popular impression.

Solidification attained,—its perverseness and slow

conquest under exterior action by light,—then the results of an alteration of the centre of pressure, followed by convulsive relief, and thereby the object of progress secured amid nature's groans, clouds, ashes, tears and repentant momentary grief and despair, under the decrease to a constant order of light from the presence of God is perfectly presented, but all to go on clear and peaceful again. Match this for pure scientific correctness and conciseness, as well as hallowed use, and beauty for a moral symbol who can? Yet geologists tell us it was their modern discovery, and even then they had no idea of such a connection under the laws of gravity for the whole, as to have been able to use it in succession, for one theme unto God in mercy and judgment in poetic praise, about all on one centre, for human good. Not only do the remnants of Greece and Rome shew, that with Palmyra and other more ancient cities, they possessed great minds in architecture and some thought in morals and poetry, but in comparing the remains these older cities always shew the gigantic reach of greatest power in the sciences requisite for such ends. Their mechanical means were immense, even if the details in finish were less refined. Is it possible that these beautiful accuracies could be found springing from the pens of men on the laws of mechanical effort under God in nature, if not associated with a knowledge of the properties and processions of them in their causes intelligently? This would be the greatest miracle of all, and would still leave the knowledge manifested as a fact on the divine page. It would rob the writers, or speakers, of their share of the honour, but not the Holy Ghost.

Hugh Miller made his first discoveries in geology *as a quarry-man*. Were there no thinking men in

the days of those gigantic mechanical efforts, when the stones were cleft from the rock required for Dendyra and Thebes? Were there no fossils found, and no theories about them?

Again Job says,

"Dead things are formed under the waters
And the inhabitants thereof,
Hell is naked before Him, and destruction hath no covering;
He stretcheth out the north over the empty place,—
He hangeth the earth upon nothing."

Now of Hades or the natural hell, the Redeemer vouches its existence and character, as well as its position in relation to the earth's surface and physical cosmogony. Natural Physics affirm that fact also as a covenant necessity of this law. As Jonah was "three days and three nights in the whale's belly," so Jesus proclaimed when suffering the substitute's infliction under the great baptism as the doomed, according to the confession, "All thy waves and thy billows passed over me," his place was, (in what God had the added use for,) the natural prison for the idolaters of the creature to the neglect of the worship of the Creator. The heart of the earth—The term heart instead of centre, conveying the same idea for the earth the heart of a man is used for in the deposition of the vital fluid supplies of heat and substance of all the upper surface by perfect circulation from the belly's functions. Man's spirit is swept like his dust, whose sensual passions governed it, by a just law to court the centre or boiling heart of his idol. There, for atonement to be complete, the Redeemer went and preached to the spirits in prison—His being there being proof positive that in the covenant offered in him they might, had they accepted it, have all escaped. In Him both flesh and spirit cried out for God by the law of his birth;

hence the fire could not torment his soul. Now Job, above, speaks of the earth's centre as the bowel preparing place for the requirements of the upper surface. He then is at least correct to the infallible law of effort for thermal unification under the ratio of attraction and mass by draft, and then by pressure, as we proved by the law of a tea urn at first in these studies.*

Fire, heat, and combustion, are all necessary parts of the good, and the proper agents of all organic means of healthy quickening and final finish for man. Such a Hades must therefore have existed as a heart force to the earth, and was quite harmless to man, had he not sinned; yea, there the matter is prepared from whence the services and soils of his own body and its wants were to be supported by boil. All the earth's hot springing fluids attest it exists, and the coldness of languor and death must stretch from pole to pole unto the equator unless it was constantly supplied against the exhaustion of radiation from within and without in equal ratio to the loss.

But the expression respecting the north as over an empty place, is a masterly advance in science; as there is the massive chest of the fire-breathing earth over the requisite position of the long hollow, precisely as it is in the intended anti-type, the human form, and all organisms; not hollow as over nothing, but comparatively, and as nearer the earth's cold skull, the northern pole, i.e., her chest.

The expression also, "hanging the earth upon nothing," shews his correct view of her spherical form,

* See a Lecture, "The Force of Light," *Pitman's Lecturer*, April, 1861, also the first parts of this work in the British Museum and Kensington Educational Museum, 1860, as forwarded and acknowledged with thanks by the officials of the latter institute.

and as yet sustained, "hung," but on no visible solid,—floating in and on a sea of invisible, elastic, gravitating ether by her own centre.—For without this connection the expression hung would be imperfect. Where are the modern definitions of science equal to these? Men have spoken of flying globes, but not of there being hung as in a scale, at all.*

The last passage we propose to quote from Job, is from the 30th Chapter, where God himself takes us to the starry regions.

Canst thou bind the sweet influences of Pleiads,
Or loose the bands of Orion?
Canst thou bring forth Mazzaroth in his season?
Or canst thou guide Arcturus with his sons?
Knowest thou the ordinances of heaven?
Canst thou set the dominion thereof in the earth?

Here we need not enter on the question of what constellations are referred to, and we must admit that the works could only be God's, but the address necessarily supposes that the person spoken to had such attainments in astronomy, that the questions were pertinent as intelligible, or the lesson must have been useless.

First we have the whole system, as at work for influence, *i.e.*, refined and gentle dominion: and as ordinances, *i.e.*, one under a perfect set of just laws for the whole alike, while admitting of certain variety within the general bounds, and all for the good of the sphere on which Job depended for his material resources of joy. The expression, knowest thou the

* If *nothing* be taken exteriorly and literally, hung is imperfect, but as correct for the earth's true centre; yet as the whole creation connects in empty space by attraction, it is still of the whole in a greater degree hung, as together, on nothing, space being no made thing. In either sense it is true as of a double meaning. Atoms hang together in space and so have no means of motion or expansion except by solid force in leverage from without.

ordinances of heaven? is an evident parallelism, as a general recapitulation and expansion of the foregone impressions, and unites the whole together as implying common use for dominion over the earth, of the created sphere of ether and its contents.

The solar orb is called sun, or centre light, by which the earth, and all parts of the general ordinances of heaven, is held as the immediate ruler of them; and astronomers now consider, on premises of observation and calculation, that he is held in his line on the star Alcione as his alternate, or requisite pivot on which all united bodies under gravitation must be hung; i.e., all bodies must have one somewhere, and that is supposed to be the sun's. In this case the rest of the stars of the constellation, as they must aid the earth's force of retention over the sun, by being her pillars, are correctly referred to in the general expression of Job, as the influence must be both most material, powerful, and yet subtile. Perfect for balance, liberty, restraint, and variety, over the surface. On this, or some such point, the sun must be plunged along the vast attractive line of the Milky Way, proving the submission of the orb to the common laws of gravitation, draft and leverage, which, to be direct in result must have a fulcrum rest,—a force of individual interior propulsion, and a line rule of exterior attraction, all bound together under one system of law, of various properties under weight. The division of the stars into systems of control and dependency as of monarchical divisions, or nationalities of stars, does not affect their united submission to a common centre and law, as the diversities of property in matter are sufficient for the admission of such variety in the compound, which we shall prove hereinafter.

Especial friendships and bodily sympathies are therefore typically taught as just in law, and are

represented amid the stars, without the breach of universal order and love for the perfect "good." In the days of Columbus, men of modern science supposed the earth a plain, yet we find Isaiah writes thus:—

"Have ye not understood from the foundations of the earth
It is he that sitteth upon the circle of the earth."

Throughout this entire biblical teaching, harmony with the Mosaic record, and true scientific evidence, is retained for the earth's, as a pure cosmogony with the whole universe of globes and every atom of use amid them.

It is enough to shew that the fundamental "reign of law" is for the use of the universe the same, and was so understood throughout by these ancients.

But before Newton no idea existed of this truth, as of practical fact among the moderns, and now they shrink from it as wholly so. Even his discovery of motional attraction is always spoken of as the first common law ever found out, and both the most powerful and most fundamental one over motion. Neither idea being true. It lies between the inertial unit as older and lower, and heat as more active. Kepler's laws, so called, are not even laws at all, as primal causes; they are only actions of proportion or laws under the second causes, and so were found out by sheer guess and calculations.

Neither were the more modern confused idealities about light, heat, and electricity, a whit nearer the discovery of the vital thread of light, and its power to awaken and give properties as the centrifugal force. The experimenters on them had only been

NOTE.—Some beautiful papers have appeared in 1866, on the Reign of Law in "Good Words," by the Duke of Argyle. But the tracing is confined to mundane minutiae. Thus all fall short of the inspired writers in grasp of science.

thrown off the true scent thereby. The words of the blessed New Testament, however, teach this as a fact involved in nature. Light is always used as a typical agency of universal force for the need over mental inertia, being so in the material world. New birth and all power of correct action being the alone gift of the Word as Light, spiritual. Thus, one quotes from the old prophets,—“The people which sat in darkness saw great light, and to them which sat in the region and shadow of death, light is sprung up.” Much use to have the light spring up over such a state, unless life, in its power and properties came embodied in the stream. This teacher plainly meant life came by it.

The beloved Apostle is very absolute on the connection between light and life. Thus, to illustrate the power of Jesus, he said,—“In Him was life, and the life was the light of men.” Here the 1st of Genesis is united to the Gospel to shew the purpose of light is one, either as physical for the physical, or moral for the moral, to hold life or light as all but synonymous terms of power. Then in contrast to John the Baptist, and all secondary ministers, it says,—“That was the true light which lighteth every man that cometh into the world.”*

* Thus, God will justly reward every man according to his work; of course, advantages considered. All the early prophets and saints by new birth, in the Word were sons of God. In service they were only the pioneers of the kingdom's force, but could never establish anything that did not require something better to secure its hold on man. As soldiers their position was the more difficult, being less aided in light to those who follow Christ; so, under the promise of reward, “every man according to his works,”—the hope of being in the central future governing body was theirs by the law of promotion, which cometh of the Lord above *Laodicean* believers of any age, although of the more incorporated army. (HEB. ii.) Else how every man according to?

Thus it is not of it as an external means to lighten up objects for the eye of judgment light is a proper type, but as the agent of life; for both ideas are distinct, although united in the use of light for the likeness of Christ's work.

So, whether men enjoy only natural light, or the spiritual by revelation; whether only by the eye and sense of feeling; or have found blessing in the Gospel, Jesus was the Word—the Creator—for he was “Immanuel,” “God with us.” “The word was made flesh and dwelt among us, (and we beheld his glory, the glory as of the only-begotten of the Father,) full of grace and truth.” Thus light and life are made as possessions synonymous in a body. Our blessed Redeemer, if possible, in more absolute terms, and certainly with superior perspicuity (a necessary perfection in teaching,) shews that light is always the agency, under God, to life. And as a flowing stream of solidity to hold all its other properties. To follow his use of the type found in creation over matter, we first quote,—“I am the light of the world: he that followeth me shall not walk in darkness, but shall *have* the *light of life*.” Now, while the light of life he speaks of is the essential element of the eternal spirit, who is the creator of the material agent, yet the symbolical use must be accurate to be suitable among other sources of natural action, walk, or motion. So then we find the light which is the material type of Christ, must be used over matter as his words are over the soul in spirit, for the illustration to be correct. Although, therefore, we may lose the light, or vital thread of this life, which we receive with the air and other material aids, but which is the physical vivifier, as far as time is concerned over the inertia of the body, yet if we *receive Jesus* we are to have the light of that life

which is as his own, *i.e.*, worthy to be truly called the Light of Life, because it is eternal. For Christ was not here teaching of himself as Creator, but as the spiritual Redeemer of the resurrection, taking his types from appointed realities in natural physics for it. Nor did he use the phrase as of the external aid to walk—instruction—to the already vivified, *i.e.*, as of light to see with, but as the “breath of souls,” (LAM. iv. 20.,) the same as when he said to Martha about the resurrection of the body, as above it is to the unbelievers on the necessary new birth of the soul, *i.e.*, “have,” means have it as the internal means of life—rest, expansion and volition. A personal possession. To every Christian this will be patent. Jesus therefore teaches us by his use of material light in hope by analogy to spiritual light, that it is the centrifugal power of all material nature, as it now exists under God. In the assistance the reader is provided with from the many quotations of holy writ in earlier parts of this work, with these, enough is now supplied to shew where the first accurate acquaintance with astronomical and general physics, in the primary properties, were to be obtained, and where the honours lodge. For instance, no man of science in modern days would speak of light as the physical foundation means of life; speaking as man always necessarily must, so bounded by their knowledge, they would only talk of the breath of life as the air, or fluid of our secondary heaven; of the correct use of the two primary fluids, the ether of the first heaven, which was the entire more refined, and yet more heavy one in mass as a more expansive pump agent to use light, its coadjutor, and then by interjection into the human system give the constant disturbance of the equilibrium of gravity on one line by attraction, they knew

nothing, and so could only so speak of the use of what was tangible to the more immediate senses. I shall now only further cite some correspondent evidence found by the admission of classic recorders, among the earlier pagan writers.

I quote first from a very able astronomer of the earlier part of this century.* Professor Kiel says, "The first and chief of all sailors is Neptune, who upon account of his skill in his art, was celebrated as God of the ocean. His son Belus, being an astronomer, by his knowledge therein, carried the inhabitants of Lybia into Asia, where he instituted colleges of astronomers; for Diodorus, in the first book of his histories, writes thus—It is reported, says he, that the Egyptian Belus, the son of Neptune and Lybia, brought a colony to Babylon, and there he instituted priests, whom the Babylonians call Chaldeans, who after the manner of the Egyptians were to observe the stars. Before his time, there was Atlas, king of Mauritania, a great astronomer, who shewed us the doctrine of the sphere." This expression "the doctrine of the sphere," implies it was

* An "Introduction to the True Astronomy," or Astronomical Lectures, read in the Astronomical School of the University of Oxford, by John Kiel, M.D., Fellow of the Royal Society and Professor of Astronomy in the University. Fifth Edition, Published 1826.

Professor Hunt shews, in his work, "The Poetry of Science," that, notwithstanding some generic connection was supposed to exist between electricity, caloric, and light, that all experiment had yet resulted in was a conviction that light is not the centrifugal force or *primum mobile* of nature. Herschell and other philosophers even to this year, 1865, are opposed to owning its gravitating property, as corpuscular, as papers in "Good Words" shew, for the ether of upper heaven also, yet nature demands it for both by necessity of correspondence, in facts done and seen under leverage.

esteemed a view comprehending the fundamental laws, and the admission exists that the colony of Chaldeans, (who are certainly not Egyptians,) were to teach fore-known attainments. Again he says—confusing the secondary Egyptian with the primary Chaldean sources—"For the kings of Afric and Syria first invented and improved it, and long before it was known in Greece."

Also from Plato:—"The first who observed these things was a barbarian." Who Neptune, or this barbarian were, the classic writers do not inform us, and as they were generally ready to appear learned, we may opine they had only the uncertain aid of oral tradition to depend on. Now oral tradition is generally based on facts of which the grandeur in the events made a permanent impression, but the details have become confused and perverted by superstition and ignorance under a proudly defiled will and imagination.

We are, however, informed, that this barbarian lived in a country of clear skies, *i.e.*, one very suitable for the study.

A simple uninitiated reader might suppose that such person could never be so designated if he was a prophet or other especial servant of God; yet, that is just as likely as any other, so far as the application of the term by the pen of a conceited Greek philosopher implies.

This barbarian, who had such a progressive pate, might have been the royal hearted and princely Job, his intelligent friend Elihu, or Moses, or even Enoch had the age suited; and the Neptune was most likely another name for Noah, of whose voyage from one world to a new one, traditions remain to this day *among* the really most barbarous tribes of Polynesia, *indeed* over the world of savages.

To make a saved-saviour of the race a demigod, was in the exact spirit of the age, and is a passion embedded in the human heart; and the connection between the knowledge of the antediluvian attainments of man, under that immediate liberty Cain and Abel had, (and all then were privileged in,) to consult God himself before the Cherubim, and the fire infolding itself, placed at the east of the Garden of Eden, to preserve the way of the Tree of Life, (*i.e.*, life by trust alone in God's power and love,) is very easily entertained, as the more than probable first and last preserved hope after the flood, yet all retained by tradition among the Gentiles. On the deliverance of that family with whom rested all the remains of antediluvian study, we know how soon they sought to establish a college of fixed ideas, to enforce "one lip," or faith for their posterity, and how, in providing the means they quarrelled over it, as men ever do when they undertake what is so much above them. So God sent them by their divisions adrift over the earth with their many sectarian notions as they gathered around leaders.

Schools we must have, but the instant their foundations are final on human decrees, the throne of God over the individual conscience is usurped, and he is sure to shew his anger by sending forth its fruits in the fire of division and hate.*

At all events, the state of things described by

* Just as God at last gave the hastily progressive, because discontented, Jews a king, after leaving them to try their own power to choose and its results, so he gave, at last, to men a suitably smaller system to preserve all that was desirable and known of the way in the Messiah in the tabernacle and its types. The divine actions are corelevant to shew men the need of humility as to means for the thing *seen good, and thirsted for*, in their power of selection. *God's word will admit no extract creed as less than all,*

Scripture, as a leader to the early sources of scientific light, agree in substance with traditional first witnesses.

The Jewish tabernacle afterwards supplied a position for the most enlarged enquiry into all true knowledge, with the Cherubim and fire infolding restored, but on a more direct earthly basis, to that God had planted after the fall as the double witness of the earthly rule and the heavenlies in Jesus—while Melchizedek attained his state under the same order as Christ in person *i.e.* in direct call from above, from the Father, yet under that coming one. But Kiel gives also this reading. "However, it is certain that astronomy from the very beginning was cultivated and improved by eastern nations. For if we believe Porphyry, when Alexander took Babylon, Calisthenes, at the desire of Aristotle, carried from that city the observations of 1903 years after the flood, which brings the beginning of these observations to 115 years after the flood and fifteen years after the building of Babel. Pliny, in his Natural History, relates, that Epigines affirmed, that the Babylonians had observations of 720 years, all graven upon bricks."

Thus, the study is at last traced to this very connection with Noah, as an object with those giant minds of the primitive maturities nearest the certain full first creation gift worthy alone of God in Eden.

Every voice therefore declares that astronomic science has had an age with man of primitive force, and then fallen with him to the age of the cross, the epoch of slow but sure reaction. And it is quite consistent with that fact, that the earlier expressions we find springing from those taught of God should convey more full acquaintance with the causes than *the details* resulting from them, because a perfect *teacher* would most certainly begin, as it is certain

yet our school teachers will, with the keys first for the means to correct education, and then, from them, throw out details. It is the proper path of exercise to leave the details to become the subject reward of the diligent by the use of their own gift of genius and perseverance. The time of man, even if Eden with its state had been perpetuated, would require an enlarging means of employment. Of the antediluvians, it should be remembered, they had immense length of days to find some gratifying employment for; and as the thirst of human curiosity in every branch of thought was then in primitive intensity, it is incredible that those who lived through so many centuries could neglect to search out all the earth's measures and treasures as opportunity allowed. Could it be true in Job's days and our own, as to man's spirit of research, and not so when the energies were of the prime from God's law.

A path which no fowl knoweth,
And which the vulture's eye hath not seen.

The lion's whelps have not trodden it,—

Nor the fierce lion passed by it,

He putteth forth his hand upon the rock,

* He overturneth the mountains by the roots, &c. (28 CH.)

We see the same intellectual consolations, as the world found in our Crystal Palace art and science unions from all nations, were seized on by Cain and his children, when the sound of the divine curse for their proud Christ-rejecting spirit was yet vibrating in the air. Of men of this stamp, in all ages, their

This passage by the injurious system of the division into chapters is constantly read as referring to the works of God, but if the reader will look back to the 27 Chap. he will find the pronoun, he, is used of the wicked man of self-will and resource, *whose great labours and genius are employed about earthly works and treasures, while wisdom he finds not.*

brain power is their pride, and the want of heart for piety, humility, and gratitude, for God's revealed eternal purpose of a second earth of a higher order, gained by probation, in sneering indifference their boast.

But among the thinking part of the community, there have ever been the truly pious, who submit like Abel to confess the justice and mercy both of God's way and end, and also with a just passion for attainments, such as honour the creator of the intellectual capacities, and the objects which form its first natural satisfactions.

Scriptural physics, at once witnesses against the progressional development theory of the materialists, proving men were neither hocus pocus'd out of the monkey tribes, or first raised in the lower order of the savage state. It is surprising that men should reason so much in a circle of self contradictions, yet it is so, that the very parties who maintain the book given by the Great High Priest of true profession in religion, ought not to teach science, also demand that every Christian teacher must be coached into a something especial of mathematics and other abstruse sciences, so that their enforced necessities for full orders in sacerdotal preparation demands the supply of a constant succession of professors as their teachers, while the head master of their profession, in his "Principia" (The Bible) provided for that same work, must be told he is not expected to care about it. Strange, indeed, that what a prophet or an apostle of the foundation ages of Christianity need know nothing about, an evangelist of this day, yea, even the Christian pastor and teacher must, and every curate of the national system be at least on the boards to win a prize for a wrangler about if possible. When men cannot prove deficiency in God, *they seek to prove that, practically, He ought to allow*

it to appear. Like Jonah, to maintain their own pride of standing, they would have Him forget some part of the range of the covenant he is committed to.

Could some sceptic have discovered the centrifugal power of science, and have dovetailed it in his theology, what a carnival of the enemies of truth we should have had; what a fortune of abundant patronage and support would the world have accorded him ere this.—“The world loveth its own.”

The degradation of the race which continued after the flood, and was early marked in the sensualities of those who escaped it, rapidly worked, and had its only check in one silver stream of light to Melchizedek—when God took up Abraham, but only in promise, for its more especial earthly feature claims in the law. Melchizedek and his city of peace, under true priestly and civil rule, is a proof the serious judgment of the flood had stamped its results on saint-like minds, although no earthly tabernacle stood between man and the heavenly seat, whence the higher order and perfect call abides. Thus the heavenly calling was initiated before the day of its more finished power, in the great hinge of time administrations, the going forth of Jesus after the descent of the Holy Ghost on Him at his baptism.* Nor did the higher branches of the prophetic call ever go to the “voice” within

* Many errors have arisen from a false view of the time when God developed the highest administration, by supposing it at Pentecost to the church instead of by Jesus in his mission of grace and truth. Hence the error of Roman claims to alter by the church's authority the commands of Jesus. Here also arises the error of the Society of Friends about the Spirit above the Word Jesus; so that they treat his commands in the sacraments with contempt. The church was baptised by the Spirit to occupy his place as the Cross bearer, for truth, as secondaries of the height only.

the veil, during the Jewish day. Then, only the Aaronic order, as the lower and national, received their instructions from Jehovah, but the rainbow arch of Isaiah's and Ezekiel's line ever came from, and were ministered to, as of the wilderness, direct from God over all. Their voice was God's thunder from the highest against priest and king of the throne and temple. This double aspect in Jesus is sustained as immutable throughout. How Moses obtained the creation synopsis is not important, its elements are so full, and yet so concise that on that alone, he can attest his absolute verbal inspiration. The very conception of such a thing, as giving a full key to all natural physics in so few sentences, is Almighty. It is thus cast before us on its own basis. On this ground sceptics madly attacked it. God will make it, certainly a brand of fire against them. A mene, mene, tekel of science over them.

The spread of intellectual studies among the nations ere "Ichabod" became impressed on the Jewish forehead, may fully account for the state of things among the Greeks which, developed Hipparchus, a Ptolemy, or a Plato. They mark, not the rise, but the low-water-line of the tide of natural science by Gentile dilution. To see this point more fully, we shall return to the work of Professor Mitchell.

In the previous extract, this statement is included. "No one science, perhaps, so perfectly illustrates the gradual growth and development of the powers of human genius; the movement of the mind has been constantly onward" &c.

The reader of history has only to call to mind the past glory of Thebes, Tentyra, Palmyra, and On, as *the remains* existing to this day shew the traveller, *and it will be evident, that if this was a correct*

hypothesis on astronomical knowledge, it would be in contradiction to other labours in art and science. That there has been the retrogression of a "fallen estate" the evidence from Mr. Mitchell's own examinations and readings assert, and it is only one proof of how lamentably blinding prejudice is, even on able minds, that he did not see his own contradictions, or read it from a comparison of the records of ages. "There must have been a mightier age than that of Greece or Rome long ago."

Under the head of "The discoveries of the primitive ages 2nd chap., where we might have expected to find wondrous revelations based on clear records of fact, to prove his above assertions respecting astronomy, he says," When I reflect on the recent triumphs of genius, —When I stand on the shore of that mighty stream of discovery, which has grown broader and deeper as successive centuries rolled away, gathering in strength and intensity, until it has embraced the whole universe of God. I am carried backward through thousands of years, following the stream, as it contracts its course, till finally its silver thread is lost in the clouds and mists of antiquity.

NOTE.—A transcribed notice, from the London Illustrated News, March 21st, 1863, is interesting respecting the spread of science, from the time of the flood, and through Moses, and again in other countries, marks the age of low water mark in decline.

"At a general meeting of the Royal Asiatic Society held on Monday, the Right Hon. Lord Strangford, president, in the chair, a paper, by Dr. Kern, "On fragments of Aryabhatta, the celebrated Hindu mathematician," was read. These fragments prove conclusively that the sphericity and diurnal rotation of the earth had been correctly apprehended by that early Indian writer, who flourished at an epoch variously estimated by different investigators, but which must have been prior to A.D. 600, and has been placed as far back as B. C. 100."—(where acquired ?)

Here we find, at least, the believer in the Bible is best off, as the silver thread is not to him lost in clouds, but is an effulgent stream, on Moses' pen, shewing foundation beams about the first citation of atoms of superior opacity and inertia, gathered for a solid sphere, with and amid a refined measure in a heaven, medium, or womb for a scale stamp by chemical divergence, and the means of vital circulating variety of harmonious elements in light.

Moses, in his day, was at least correct, that the duplicate associations of mass in matter produced darkness, stillness, and opposition to the force of formative change, as well as on the place and end of the light weight in fire and flow to force motion.

Again our American friend wrote:—

"I would fain stand at the very source of discovery, and commune with that unknown God-like mind which first conceived the grand thought, that even these mysterious stars might be read; and that the bright page which was nightly unfolded to the vision of man, needed no interpreter of its solemn beauties, but human genius." The energetic professor, who has passed now from this scene in another office, goes on further in his work than we need quote, with his beau-ideal of a first discoverer with no aid from revelation and says, "Thus resolved the unknown founder of science of the stars, his name and his country lost for ever." Surely we might expect he left some book, so anonymous; but no, the writer quotes no fact, on which to *prove* the man himself ever existed. He had no thought of Moses. Now Professor Mitchell was, I believe, no sceptic, his view is simply the crude imagination common to those who are orthodox on other points of scripture, and *we only use his testimony to shew the real distinction, history demonstrates, between the gifts by the full*

light of revelation, and the darkness, as usual, of tradition, from the voice of an enquirer who for his capacity, in astronomic thesis, has a ground of popular note.

Our mental optics are, however, confessedly, not equal to perceive, how, by the aid of an acknowledged mythic first discoverer, the onward and upward of astronomy with constant progression from the beginning is proved at all, however sweet the idea to the great besetting passion of our age, the pride of uninspired human genius.

Again he says:—"It is only when we remember, that from the very cradle of our race, strong and powerful minds have, in rapid and continuous succession, bent their energies upon the solution of this great problem, that we can comprehend how it is that light now breaks upon us from the confines of the universe, dimly revealing the mysterious forms which lie yet half concealed in the unfathomable gulfs of space, &c." *

What sort of cradle these wondrous babes were rocked in we will not suggest, but as the marks left in time were "lost as a silver thread amid the clouds," it is scarcely likely they were human at all, but of the Mercury breed with Minerva for the nurse and Pluto for their grave digger—Charon attending the funeral obsequies as undertaker. The solidity of the impression made on the mind of the writer certainly gives us a good idea how the whole mythology of the ancients, Grecian or Hindoo, found their first existence among mankind.† This ideality, of a clever

* "Planetary and Stellar Worlds," by Professor Mitchell of America.

† See a masterly chapter on the "Way of the Heathen" in *Dr. Morrison's Religious History of Man.*

but erring imagination being the birth place, like that out of the brain of a Jupiter, the father of false fanciful goddesses, is a myth based on some old abused truth. Thus, to solidify the matter to the reader, the next page says, "Go with me, then, in imagination, and let us stand beside this primitive observer, at the close of his career of nearly a thousand years (for we must pass the epoch of the deluge, and seek our first discoveries among the sages, whom for their virtues, God permitted to count their age, not by years, but by centuries) and here we shall learn the order in which the secrets of the starry world, slowly yielded themselves to long and persevering scrutiny. And now let me unfold, in plain and simple language, the train of thought, of reasoning and research, which marked this primitive era of astronomical science. *"It is true history yields no light, and tradition even fails."* With the confession in this last sentence the views of this author may be discontinued. Were all is romance by confession, without one known truth to say it is founded on, to talk of unfolding in plain and simple language anything worthy a child's attention, as the record of a grave historian, is absurd.

We have already confessed the supposition is strong from the known mercy and kindness of Jehovah to a race of sinners, that when any of them came to Him, like Abel, confessing their lost state, and its need of the blood of the New Covenant in Jesus, that He aided the early inhabitants (who lived so many centuries as the antediluvians did) in the comprehension of the created system they had to receive the first tones of love through; and this not primarily for their virtues, but in proof of his deity in covenanted *promise*; as their years were proofs, on the same *topic in testimony*, that however short life became

after the flood, (and death was due to all after sin appeared) yet the offer of eternal life to Adam in his first nature, through the seal of that covenant in the tree of life, was a certain and possible reality under truth by innocence retained in faith. (GEN. iii 22.) The reader will, however, remember that Mitchell was well up on astronomy; and really suggests one worthy idea which all historians of astronomy corroborate, *i.e.*, that from the book of God alone can we get the earliest information on knowledge in astronomy, as there is no known writer among the classics earlier than that work of Job, when God Himself teaches, or rather refers to it as a fact known to Job, of the procession of the signs of the Zodiac, which he alone could bring forth, or the separation of the higher stars into distinct systems. The views of Aristotle, Plato, and Ptolemy were very shallow; and the mischief the opinions of Aristotle did up to the days of Copernicus and Galileo are well known facts in history, while the errors had become, prior to that period, universal. On these latter times Professor Mitchell brings forth some curious and most interesting facts, which catch, as by a gleam of dying sun-light at eve, the mark of a period in the fall of the tide in science, but of which, as he knew nothing about the "force of light" as a hydrodynamic power, thermal in the universe above, he could not note the value.

He says:—"With a full knowledge and appreciation of these facts, (*i.e.*, his imaginary dream just quoted) we are prepared to enter upon the examination of the career of astronomy up to the time when all darkness disappeared before *the dawning of a day which should never end*. The early Greek philosophers, little fitted by nature for close and laborous observation, rather chose to gather in travel the wisdom which was *garnered up in the temples*, and among the priests of

Egypt and India." This district included in its bosom the native land of the human race, as well as the Chaldean plains and the afterwards appointed land of Jehovah's tabernacle.

We have already seen how little these inquisitive travelling plagiarists got on natural physics, in comparison with what existed in the recesses of knowledge hid among the glens of these wide districts; but on the fruits of their spoil this author says:—"Returning to their native country, they *theorised* on the facts they had learned, and taught doctrines, which found their only support in trains of fanciful or specious reasoning. Thus we find Pythagorus mingling the great discoveries of antiquity with theories the most vague and visionary. While gleams of truth flash occasionally through the darkness of his doctrines, they seem but fortunate guesses. His views were sustained by no solid argument, and rapidly sunk into forgetfulness. This philosopher is said to have fixed the sun in the centre of his planetary system, and to have taught the revolution of the earth in an orbit; but to sustain this bold conjecture, the only reason assigned, *was, that fire which composes the sun, was more dignified than earth* and hence should hold a more dignified position in the centre." *

How little did Mitchell conceive, that in the cause here assigned for the solar rule, was the most truthful flash of light beyond all; and the perfect scorn with which he treats the idea, shews how far men of science were prepared, before this work was

* One assistance of Copernicus, leading to his discoveries, was the idea that the larger body must be a restraint for the smaller, and not *vice versa*. This being true in the source of restraints, must be even the more in providing means of flight and distance against such restraint, i.e., if true in constant gravitational force, it must be in regard to light and heat sources, as the motive agents.

published, to own that the single property of fire had the quickening power over all the force of weight or common gravitation; and that as it has its flow from the sun to the earth, but in a stream of matter, *sui generis*, by heat, it has the office and power to turn inertia itself, dead earth or clay to the use of motive purposes. And it is the most dignified, simply because it masters its opponent, and uses it for a servant on the base of its given will or peculiar property, while called on also to submit to be embodied in a measure of associations with inertia and attraction, *i.e.*, in a body. The force of light is a living demonstration in matter of the power of mind over it, *i.e.*, of the spiritual and essential over the material. As all property except the peculiar property of body or solidity is immaterial, although it uses in all this universe the material as its body-servant for leverage. And the properties of fire overcome the property of inertia. The younger spiritual one rules the elder here also. But where did this Greek get this idea, but most probably by the author's own account, as a borrower of knowledge held in Asia, and of which he could make no practical use for the progress of science after he had it, as is the case with all mere borrowers of truths beyond their measure.* So the theory died out as a wild idea up to Mitchell's day, who adds, "We are not surprised that Hipparchus and Ptolemy, the true astronomers among the Greeks, should have rejected a doctrine sustained by so futile and absurd a reason." This is

* Also, since the first parts of this work were circulated in London among men of science and their societies in 1861, theories and experiments have, as therein foretold, been abundant on Thermal Dynamics and the lower order of results, yet nothing important has been developed, except some corroboration of the subjection of heat to universal attraction and pressure, as hereinbefore demonstrated, with its power on the needle.

followed by a statement that Nicetas, a follower of Pythagoras, held the theory of the earth's diurnal motion. True as this is, yet both were hypothetical ideas, the causes of which neither knew, or even of experiments in proof of the facts by observation, so it is scarcely to be called going further than his master, for as motion is manifest of one, Pythagoras, he says, held the sun to be in the centre. This person could have scarcely supposed the centre moved around its circle, which is absurd. The fact appears to be, the whole was a borrowed affair and appropriated without acknowledgment, as is common to this day among professors of science, and in this case, without the connected links which explained the matter to those for whom it was filched.

The confused state of observation by Hipparchus, and of theory by Pythagoras and Nicetas, are just what might be expected as bubbling up at a period when both correct theory on causes, and observation on facts were dying out. Each mind adopted what was most suitable to the measure of his genius, and neither did an atom to hinder the full loss of all that was correct. From that time the Aristotelian theory got possession of the human mind, and was an error in every respect.

Correct observation begun again with men of the Christian profession, Tycho Brahé, Galileo, and Copernicus. Men, too, whose minds sought to use the true liberty of research after the truth Christianity infuses, and which Popery had sought to strangle. Correct theory on causes had no beginning in restoration until the illustrious meditator on the fall of an apple struck out the first great idea of nature's foundations in immaterial property. He, knowing only that one, and seeing it had a unity of power in all the activities of nature, gave it impossible honours, like others have heat and

motion of late, as they were directly opposed in property, one against the other. Moses made no such mistake; he defined inertia by attraction as a law of density, opacity or darkness only. Among the Greeks the last drops of the full vessel, in emptying, had no connection as a thread. The atoms of truth fell in smaller or larger drops, just as they were combined with more or less of the native power God gives as the natural means to greatness of thought, and then became only the mind of the bottomless abyss of ignorance in disconnection.

A friend at Plymouth having lent me, while about this paper, Grant's History of Astronomy, a few extracts from that compilation will corroborate our attained view.

Of the Chaldeans he says:—"The Chaldeans, by confining their attention to the mere occurrences of phenomena, were unable to arrive at general views of the celestial motions: the philosophers of the Grecian schools, on the other hand, long wasted their transcendant talents on groundless speculation, which were equally ineffectual in producing any permanent influence on the progress of astronomy."

On what the Scripture teachers knew, this author was therefore either quite ignorant or indifferent, as again he says, page 2, introduction.

"The astronomers of Asia, although patient observers, do not appear to have in any age aspired to this more exalted occupation of the mind. The Greeks first reduced the knowledge relative to the celestial motions into a systematic form."

Again—"Amid the numberless ideas which perpetually occurred to the speculative minds of the Greek philosophers, it is perhaps not surprising that the true system of the world should have suggested itself to them. Pythagoras is said to have taught his

followers that the sun is placed immovably in the centre of the universe; and that the earth moves round it in an annual orbit. This system was first taught publicly by Philolaus, and was adopted by several ancient philosophers. Nicetas of Syracuse, on the other hand, is said to have explained the diurnal appearance of the heavens by the motion of the earth around a fixed axis. The ultimate abandonment of these sublime doctrines by the Greek philosophers has been attributed to the hostility of the Aristotelians, who had placed the earth immovably in the centre of the universe."

Thus the point in the ebb-tide is at all events again fully owned, and what follows from Kiel and Grant plainly shews the theories of the Greeks were sheer imaginations, or impressions borrowed from others, without one atom of known practical evidence.

Thus Kiel also says from Achilles Tatius:—"The Greeks had all their astronomical learning from Egypt. For Laertius owns, that Thales, Pythagoras, Eudoxius and many others, went to that country to be instructed in the Sidereal Science. These men were not only the first, but the greatest philosophers that Greece produced." Tatius states that the Chaldeans take the honour of the invention to themselves, and ascribe it to Belus. Thus Abraham is the heir again to honours coming by faith, even in this old line. Now we know from Josephus, that an Egyptian sovereign in after days was glad to obtain, as a great boon, the divine records and law laid up among the Jews, and that thus we get the Septuagint translation. Is it not plain, that among these generally most bigoted idolaters, a conscientious deep conviction ever existed where the primary keys to all pure knowledge were stored for all who desired to drink at the fountain. Grant, oddly adds:--"It is doubtful, however, whether

they (the Greeks) were at any time supported by sound argument drawn from observation, we know at least that the Pythagoreans like the other sects of Greek philosophers, were more prone to indulge in speculation than to examine facts."

Had this last remark not been the truth of the matter, it is contrary to all historical analogy that their theories could have so easily died, and Aristotle's mere fancies killed them.

We have now given sufficient evidence on the triumphant claim of the ancient sons of God for honor in scientific knowledge, although, as was natural to the early state of man, practical astronomy by experiment, observation, and calculation, with instrumental inventive aids might be less than in modern days. With the full advantage of the knowledge of the great canon, (Gen. i.,) as on physics in gasses and the telescope; what may not the future be?

Of this, the wondrous knowledge provided in the inspired synoptical key by Moses will be a solid assurance, that God is the actual teacher of science in all the schools; while in dealing with Job, the divine charge was not so much against Job's ignorance as to what is done, but his impotence to imitate it. In fact, Job's scientific intelligence is a requisite premonition. Moses might be quite incapable of seeing the beauty of the history of the creation's progress in the past, as to its rules of generation, and so the inspiration of that page be more plain to our view, as in other cases where men's words were either

NOTE.—A curious evidence of the hold-fast and abuse of divine substantive truth is mentioned in Hogg's "Queen Hynde" in a note from Mallet's *Introd. Hist. Deut.* That the northern Priests of the Valhalla always were expected to choose three, or its square nine, for the human sacrifices. Three being a sacred number in itself and multiple.

promoted or overruled by the Spirit to speak more truly of Christ in prophetic meaning, than they could see; yet in the case of Job and his companions, besides the undoubted antiquity of the book, the speeches were of men in personal violent controversy, saying things according to their own attained measures in truth, and not professed to be under plenary inspiration, but watched by Jehovah, and blamed or praised, as they deserved.

Nor is it consistent to believe the Psalms and Songs of David and others were, when spoken on points of mere natural science, (used as types, or described as of God's order,) other than their free expression by wisdom attained. One thing is made certain that the man who uses such expressions as these of the solar system, must have had some clear view of the union of all this universe under one motive force, from above and without, as a centralized lever on the sun for all.

"In them hath he set a tabernacle for the sun,
Which is as a bridegroom coming out of his chamber
And rejoicing as a strong man to run a race.
His going forth is from the end of heaven,
And his circuit to the ends of it;
And there is nothing hid from the heat thereof."

In the primitive ages of Christianity, the disciples of Jesus, although they had the Old Testament Scriptures as well as the New, had enough to do, to maintain the spiritual and moral claims of their faith against

NOTE.—On the solar motion, the words of Mitchell exactly agree with David as held by observation. "Worlds of bright and beautiful power near the sun; worlds fiery and chaotic seek this great centre with impetuous velocity, and then dash away into the farthest range of their grand revolutions. But the monarch moves on, and his magnificent cortege, performing his high behests, follow whithersoever he leads through space." What a type of Christ! How exact was David in his day!

the persecutions the effort to spread them brought on, and so but little notice, or time, could be devoted to the instruction attainable on material physics. We have seen how ignorance in true science, and the value of the Word of God on this head, have led men to deny the propriety of God being a teacher in it at all, and so turned off the mind from the right path, claiming for man all the glory.

The language of Joshua, in his celebrated command, was, for a long time matter of cavil on the ground that it was now proved the earth moved around the sun, the solar motion itself being unknown then, yet was it scientifically beautiful, although the object was only attainable by miracle as professed.

If the master of a mine wanting to survey a depth, and to rest, desired the stoppage of all the machinery at work under ground, the proper order would be to the engineer to stop the master piston at work above. So, to stay the great fire-water engine which moves the earth, *i.e.*, the sun, and her caloric exhauster and draft-chimney, the moon, was to unite faith in miraculous resources with correct scientific expression. More strange still it must be, if he used it correctly, but as not inspired. So the beautiful passage in Job speaks of "*setting* the dominion thereof in the earth" — "Loosing bands" — "Sweet influence" — "Bringing forth in season." All which phases are now found correct to fact in science. The Psalms speak of the sunset and moving through a heaven-sphere. These ideas have been before Newton, Kepler, and all moderns from their childhood, suggestive to the general view of the material regime, even if they never saw more distinctly the accuracy of the terms. Have ever men who had no aid from inspiration to lay the foundation of their education done an atom for the progress of science? Chinese primitive knowledge may at first have de-

scended from Babel or been borrowed from mid Asia also, after. The statement of Grant, therefore, that "The Greeks, as might be expected, were the first people who invented a physical theory of the heavens" must be given up in the face of his own statement of facts, and that of all witnesses beside. We are now, by the aid of the Bible rapidly progressing toward the complete acquaintance with the laws of universal physics. But its typical beauties in regard to moral consequences and means by the Messiah's solar action as the irradiator of the human race, are the most lively and interesting as well as the most profitable. The "Double" is in Him and for his sake, wrapped up in all things. Let not Christians despise the Jew, who refuses to study the old types of the temple faithfully to see there the pressing evidence of a need for sinners of a doomed, innocent substitute, to maintain God's standard in judgment, if we are wilfully blind to the value of a whole creation temple of types moved by light.

The heavier solid, the secondary hydrostatic, and the refined and more fiery pneumatic, are three competitive bodies, each having their needed bonds of chemical divergence, each their own centralizing force, and yet all by attraction bound to act on one main centre, whereby comparative forces of rise and fall—doom and adornment are meted out in justice, to prefigure the eternal laws of comparative measures of divine justice by attainment made in the mind and heart of a Triune God.

Let the scientific sceptic ponder in sorrow and Godly fear, in time, at those perfect evidences on truth, which the Mosaic account is ordained to lead into, and which must yet be seen more fully in the light of publication. For God will certainly not wind up *the story of the cross* until the gift of the Holy Ghost

to teach the Church the purpose of every chapter of the Bible is attained to his glory who sent Him i.e., read and understood by faith—first chapter and all in the spirit.

Our next topic must be quite a new demonstration to men of science gained from that first page. The certain existence and required properties of a universal medium, without which, the idea that gravitation has a linked universal rule is absurd, as a point of practical experimental thesis and proof.

Surely, if we find the first act of the good Father of All as the angel of testimony to a delivered Covenant of Mercy, was to shew the fallen creatures the first principles of natural protection, and make their clothing, as their initiator in the tailor's art, with warm and desirable material from wild beast's skins, his desire to clothe the mind in full intellectual intelligence as a means to establish and enlarge faith, both as their schoolmaster as well as prophet, need not be doubted.

When will men arise to a full appreciation of the instruction provided in the word of Him who is Love? Could the prophets have been fitted for their work, which so demanded the purest illustrations from nature should be largely used, and of course correctly, if they were not taught in the whole means by the same dictator?

To the power of the cross, as a nail in a sure place over the hearts and minds of its votaries, we are indebted for that refreshing spirit of enquiry and commanding power, by which a reaction in every branch of science has been developed. In this is one difference in that power Jesus has founded for the Spirit of God to work on beyond what any other of the earlier prophets could fix as an influence among men, so that *his* work is always designated under the

honorary title—The kingdom, or sovereign triumphant power of heaven. It is not a vain boast.

If God be, as He is, an essential immaterial omnipresent Spirit, are not all material works means to support his influence over rational minds as one first testimony, although not the highest, to shew his eternal power and godhead? In studying these facts of his arm—the Word—we, created in his image, enter into the infinite resources of the true God as the creator of the tangible and visible on which the infinite joy of our bodies must rest for stability, habitation, and glory, realizing the creation-power of Him by whom all things are made, retained, or changed from glory to glory. Hence, even the geologic ages always shew a work of greater stability and greater surface refinement as the order of his day. The new and previously unknown always appearing as the superior, which geologists all admit is on that record. The promise of the future only harmonizes there. Here are found assistant means in evidence, that such wonderful creations may certainly be expected as the prophecies declare in promise, for the just home of the resurrectionary stamp of a new physic fitted for the new moral creation of the regenerate soul, in that perfect piece of mathematical architecture, and glorious rich combination of parts and glorified material—the *city* described in the last chapters of the Apocalypse with the new heavens; and of which it is to be a suitable capital for a new *earth*, of which in size and glory the sun is our present type,

NOTE.—That this city is to be a real residence is evident from the fact, that the Shikinah which enlightens it is declared not to dwell in a temple as of old, or to be at all veiled. When the indwelling of the Spirit in the church is spoken of, it is always, correctly, as veiled in their bodies, and as it must be, i.e., templed. The immense size will evidently be required and fitting.

where the central governmental authority of God is to be removed to the glory in the claims of Jesus, The Man, greater than all the angels by inheritance.

A general folding up as a scroll, and general dissolution, (not annihilation,) of all the universe of matter being required to find a residence convenient and final for all redeemed by the precious blood of Calvary—in the circuit of such globe with all its resources restored, and equally glorified means of varied enjoyment; while the central capital, like Eden of old after the earth was made and man ready, comes down on it as the then new created bridal gift to Christ and his whole body, where the elders and selected saints chosen on no invidious claim in the time of their conversion, (which must of necessity upset the principle *every* man according to his work,) but truly on that ground of selection from the whole Israel of God, (as in the chosen governors of Jerusalem of old from all parts of the country and times,) which leaves this only basis of reward in justice intact, a rule *de facto* because *de jure*, the only just one of pure grace in the awarder—And this selected inner body of the one whole of Ephs. iv. chap. become the residents of the city whose gates are ever open to all the grandly arranged nationalities dwelling on the whole surface of that vast and splendid sphere. Among whom, as order, government, and arrangement is ever Jehovah's mind, all rewards of position will be found abundant for the more faithful, zealous, truthful and wise in the word during their day of conflict here.*

The magnificence of the New Jerusalem being given

* Such is the force of the human passion found in the two sons of Zebedee to seek hope, God will depart from this only just principle of reward in one family, of one genera by faith, that it has in our day become the basis of sectarian

as a testimonial guide to the general preservation in a glorified state of that new world, on the suitable evidence of a full redemption result for the splendours of the countries and the universal filling up to the adornment thereof. For still it is justly called an Earth and Heaven as before. The clearing up the vast force and value of the "Evening and Morning" day periods, is therefore of immense importance, and the facts of the geological cycles only lead to a proof of the consistent character of the grandest thoughts of prophecy, as the record of future facts, working out in the evening and morning of the seventh day. The day of the moral proof of the power and glory of God by his Word over man. Thus, God's plan has been, as ever before, to make the wrath of the enemies of his Truth the means to drive his people to attend to the more ancient parts of his word, and by being made to defend themselves find out its rich object, blessed grace, and perfect correctness. The shadowing out of the age of this generation of man is not found in the mere millennial theory of man's days in literal numbers, but in the voice of God himself, in his law under the Father's will of the whole Creation's (Eons. One toward the eighth of rest. The testimony of the rocks shews us the old folding up and partial restorations as refined reduced reunions of the coarser old things with constant new creations of means and things not existing before, and thus the law is stamped on the very bowels of the earth, which in just connection with a new refined law of moral introduction and introspection, involves for the final state—made perfect in the pure circles of simple mind, by its

virus and hot controversy to find for the conscious undeserving elevation over olden heroes of Truth. The depth of the *baptism in the cup* of tribulation is the ground of hope in God's support, as Jesus taught the base law. (Mark x. 39, 40.)

essential capacity, to the perfect in God by Jesus Christ—a stable restoration of all the universe ever rejoiced in, as much changed in the element of its physics in nature and glory, as that change on which all rests for its claim—the difference between the simple flesh and blood of Jesus by Mary, but of a new seed by the Holy Ghost, “The Word made flesh,” stainless; and the glorification which He had thus power and claim for in his birth in God his Father, and which, to leave certain evidence of his own personal immortality of body, He adopted once before his death, to chosen witnesses, of that basis stamp of the kingdom come in power.

Thus one eternal consistent purpose is to be traced in the Word of God and in his works, by their voice in time, which physically, politically, statistically, and morally is interwoven in one golden chain of double action in the flesh and in the spirit, its final seal, by the pure infinities of moral perfection in the Word from the Father’s bosom, taking the form of man, in full covenant relation from the lowly seed in the womb of a woman, as the new gift of God, and stamp security for all. Infinite pure morality, of divine standard, above being tempted to evil like God, could only be found as of free will individually, by One who is infinite in holiness, being “The Man” conceived from God.

NOTE.—I have here dealt with the symbolic eighth day as of one with no ninth, or after day, because God shews it a type of *perfect* rest which even the millennial age is not. In fact, that age, however more blessed than this, is still one of the moral, as proof ages of man, as in it Jesus is proved to be the final law fulfiller, a worthy king, equal to that office. Sin and death are not yet destroyed. The seventh day of the earth’s generations will be no exception in God, but that he will see his man and time under him: as, “And God saw that good” “And the evening and the morning were the *seventh day*.”

CHAPTER IX.

THE FOURTH DAY.

“And God said, Let there be lights in the firmament of the heaven to divide the day from the night; and let them be for signs, and for seasons, and for days, and years: and let them be for lights in the firmament of the heaven to give light upon the earth; and it was so. And God made two great lights; the greater light to rule the day, the lesser light to rule the night: the stars also. And God set them in the firmament of the heaven to give light upon the earth, and to rule over the day and over the night, and to divide the light from the darkness, and God saw that “Good,” and the evening and the morning were the fourth day.”

First Topic.—A universal medium or material fluid gravitating heaven of finite atoms; subject to touch and chemical decision; peculiar from other bodies demonstrated to exist, and to be a necessity over all ratios in our universe.

THE existence of a universal “Firmament,” in which all globes float, and by which their divisional relations in motion and inertia are ruled, as in the junctional means to leverage for all bodies, when forced by the introduction of the ever-renewable arm of action, over all—material light, and by the law of the now well-known power of an excited and disturbed pneumatic balance, is here to be demonstrated.

The basis of this fact being, that while corporeality is the appointed foundation of universal associations,

under God as Creator, that property involves the correct covenant results,—that while it is made the basis of fitness for the association as of solidity, or the existence of a figure in a measure of density, all the immaterial properties, virtually at work in this substance “to be” or a solid in real corpuscularity (the whole mass of the body having it in the known visible universe) must be, and is, to be true as consistent covenant law, made to move and work in the principle, that this property shall be never left out; but that all immaterial properties, however variable in their ratios in parts, are submissive to the common covenant law, God the great Father of All made the means to order and justice for the work of the Redeemer:—And that hence the body and spirit of all creation, while varying in the measures in themselves, under God, in nature, are inseparably necessary to, and dependent on each other, for the work which his eye in the account of all his labours for this creation has emphatically pronounced either Good or Bad.

Regulated leverage, in the use of all the various properties made a means to effect it, being only attainable by the due association of masses of solid on each other as the physical means for the just ratio, or weighing out in a scale of justice the due proportion of any such properties for any end in view, as between mass in expansion and mass in condensation; hence this law must pertain to the eruptive forces at work in the line, time, and velocities of stars; and while all done, which the astronomer observes, can be so accounted for; no other means exist as true, either to observation, experiment, or mathematical divisions for computation. If space be admitted, as it is, infinite, what is to be its mathematical sign and means of proportion? The same title, a “Heaven,” is given to *the exterior ruling companion of light, as to that by*

which the initial and final stamp of instruction is provided for all the forces and reliefs in birds, beasts, trees and fishes, but which for globes is as much required, and in the ratio also of their masses. And thus this perfect synopsis of science presented the dynamical consistency of nature to the rule of diversity in solidity from the first, as the base or lowest root of all proportion for the covenant action of God therein over all properties. This body of refined, but as a mass, heavy matter, must be required as certainly as our air, otherwise all the so called properties of nature have for the varieties in distance, chemical reliefs and flow, and every part of the constitution no means of just natural balance at all. Every mass of matter expanded in space, *i.e.*, holding more of it, has its reactionary power against pressure weakened. It is required as the receiver and concluding stamp force, between the operations of the mass of condensed bodies called globes, comets, &c., and their working free threads—light and heat; and while philosophers have been prepared to laugh at the tyro who would suppose nature consistent, if the variations in forces between animal and vegetable life on the earth's surface could be obtained without this copartner graduator, as found in the secondary and more solid sphere of our air, and would ask him, how the final pressures were secured to regulate the expansion and condensation of clouds, rain, &c., as well as organic bodies without it, they have not had simple scientific consistency enough to the first law of force for motion, *i.e.*, physical leverage, and for impression, expression, and relief on the gaseous escapes, *i.e.*, of physical pressure for globes, in their receipt and deliverance of gaseous fluids from each other by the common suction of gravitation, to own a universal medium. Neither have they seen that

without this third copartner in the scale of proportion, consistently imbued with all the universal properties of the body, subject with the whole to its share in change, and of such real solidity as to be true to the term "made," no means for regulating a curve existed over globes except that class of divine action called miracle, of which Scripture introduces no idea here, but entirely in spirit eschews it before the creation of man, and which they too refuse to rely on.

The law called the parallelogram of forces is known to be an efficient guide to all the unknown measures of a problem in astral motion, as in other mechanical actions; and yet when accounting for this over times and distance they forget it depends on the rule of three, *i.e.*, not merely the ideal of three but as it was a calculation on facts, the three foundation bodies in corpuscularity must be there. The whole scale gravitating or of materiality. It was known in all experiment as a certain necessity, that whatever properties might be used, connection by touch was a required fact, unless, as in collating many, they forget themselves as the purveyors of the forces, and the air as a dynamical ruler. Touch being required at each point of the means either for the circles, straight lines, or acute angles, in leverage, by fixed or floating solids, although not for the fall absolute in space.

Also, at least in their typical agents, mathematics and arithmetic, they know, that three distinct characters, or personalities, each having its root of central gravity for its own peculiar character in diversity, and yet of such elastic suitability that it could work through the whole body, were required. Yet all by real solid figures. Thus, three coequals in one, with diversity of character and office were known requisites to all rules of proportion; and why? but because two cannot be compared without the third which becomes

the means of contrast, even though it be of mental acquirements or spiritual impersonations in abstract law. And for all, personality must exist as to who and where, even at last to the personality of the one man God has made over all. These rules, although ever used for their calculations in facts, were thrown overboard by astronomers, and have so continued to this day on causes, so that they saw not the importance and wisdom of Jehovah in his act declared in the first words of his Book, and they have always been dealing with the supposition of a ruling body of ether as a disturber, instead of a requisite impact, and light elastic stamp decider of all the covenant results in creation. The wondrous refinement of which required to be so intangible to *our* touch, as in the case of light, that its united aid in the works might be capable of the variety and refinement we find on the most finished surfaces; as well as by the immensity of the body, its equality for the work of rule and guidance, on the times and distances of stars by its own touch of finger finish. In the earlier parts of this work, the invariable result of all experiment was proved to be in evidence, that a new stream of *force* from without was required to sustain heat, because it is subject to the rule of universal pressure; and whatever efforts have since been made to upset this, and make of that universe a sort of perpetual motion self-capability, the experiments have been either falsely collated, or only been proofs of the same thing. Friction, which must have force to begin it, is only caused by overcoming the inertial force which is against its continuance on the ratio of first resistance for ever. But beside the fact in thermal equity of exhaustion, by weight in pressure, and of supply only by draft in attraction, we have other simple evidence of *this law* of universal dependence in all bodies, and

the universe as a whole, by law, on the new created stream of thermal and corpuscular support, even with a medium. However true it be that the law of attraction which gives weight will bring matter to one point from open space, so that an atom outside any material medium would be moved to the bosom of the body, yet it must be toward the junction with no legal proportioner, or ruler over either the time, the force of collusion, or the effect on emission produced, unless it fell through a medium. At the same time, as we know, such medium is ever used by the Almighty within our atmosphere, these are facts connected with the evidence, found in the law called gravity, which do not make it requisite He should create the ruling thread of light *within* the universe, to prevent a too forcible first strike of the stream of motion, which would then be perpetuated. To obtain this we need to consider some points in the analysis of the property of action called gravity.

The careful reader will observe, that throughout the 1st of Genesis there is no statement of such properties in matter; the statement speaks of God creating or making a body, or thing, or set, and class of things, to which He gives titles of just distinction to guide to their functions in the general chain.

The direct ideas of property are few—form, emptiness and darkness are the first, as the inheritance of matter by estate. This we know is fact; all matter, by its first action in itself as of a mass condenses, and thus become more opaque.

Light is not spoken of as a property resulting from a previous creation, but as the actual creation of a new thing, and therefore in regard to opacity or liability to darkness on its face, it is placed before us as a simple question of contrast in its own constancy of flow. *Otherwise* condensation, stillness, and further

power of form-fulness, is not presented. The great object of the record is evidently to keep true to just instruction on fact; thus, it is never said God did so and so by imbuing nature with such and such faculties, but to keep the fact of its being his direct act as complete as possible, and yet to shew He did it consistently as over a covenant of works, as of "These are the generations." (GEN. ii. 4.) Now to see this more directly, and aid the student in, as Paul says, feeling after and finding God, I undertake to prove there is no power to move an atom in common attraction or gravity, as of a property nature herself can be endowed to work, as we know that atoms of dust in a basin of water, or the boats of a ship under her stern in a calm, will be brought together to touch, in spite of the *hindrance* of any untroubled medium in which they float besides that of their own inertia. Now if we trust to gravity to do this, or so proclaim, let us examine our proof on forces by a numerical means of demonstration.

First then, What is the original cause of hindrance? certainly not only the medium by impact—but the simple and necessary inertia of matter in space. For if, as philosophers have supposed, globes move in sheer emptiness of space, what is the rest power or backing up for leverage we have in all our mechanical actions on surfaces, but the positive sustained immobility of the mass of the globe. Hence then, inertia is the first law of material faculty, after existence as a solid is given it, as opacity or darkness, by its hindrance to the free passing the atom through space, where there is no other thing of density.

Inertia then is the first law of leverage to be studied within a mass, as force, and unless the universe *had this*, by its corporation as a mass of solid in *darkness*, no power, as well as ruling restraint of

revolution, in the places of its parts, by disturbing constantly its centre of gravity and effort to gain the stillness of equilibrium unity, by even the arrival of new matter would exist. But where proportion is needed in justice, one part being finite, and one motion measurable in time, on actions of comparative velocity of parts on each other of one body, all must be finite to have this equal ratio to rule to order by. So, therefore, for any law of justice to exist in the corporate action of this universe the law of inertia must have its figure on the basis of the mass of matter as one whole, irrespective of space, and space only operates among the parts in proportion to the space the whole mass and each varying part occupies. Exterior space, as infinite, cannot then affect the principles of justice in the work. Thus we find non-corporeality in infinite space is the safeguard to the power of matter, for its own work, as not subject to oppression by the rule of the infinite over the finite, or by creature on creature. And the universe is thus before us as a body corporate, ruled and worked only by God, with infinity for its place to grow in. Now let us give to our atoms in the basin of water the idea of a property, which has to do the work of bringing them together, and what do we find?

Let one be represented to be six in mass, and by the rule of its mass, (*i.e.*, the importance it has in the first property of existence in this universe, a body of solidity, producing the same proportion of inertia or resisting property to motion,) to be also six in motive force of attraction, and as the same square root rules the both, how, even in empty space, where there is no added difficulty, but attraction and inertia are quietly pitted together for the wrestle of triumph, is one to overcome the other. How, if the bodies be at *first apart*, is attraction to bring them together when

for its six in mass of the greater and even say four for the lesser—the opposition is six in inertia aided by four in inertia, *i.e.*, ten of inertia in possession of the points of place, against ten of attraction which has to unite? How can exact equals, in opposite power have anything but imbecility? Yet it is true, the law we call attraction, must be able to unite equals and inferiors to superiors. This is the mighty property and its ratio rule of power materialists have depended on for their lady, dame nature, to get along with all her wondrous business in the universe, without the personality of the one God over all. The essential Spirit giving “To Be” to all. The question may now be on the mind of my reader, then if the bodies will, even with the added cause of separated position in continuance, *i.e.*, a medium, come together, how is it accounted for in the fact, as the water as a resisting medium, unites its force on the side of inertia? To answer this we illustrate our point by using our own means of action for the calculations, *i.e.*, the laws and so called properties of figures.

The figures must exist, and have bodies subject to the impression of change in mass, and solidity in line or circle, but the mass power of six over four, or of four to pass through and sub-divide six, is certainly dependent in the just law of arithmetic, on the fact, that the resisting and adding power of all figures is as great as the subtracting power, and both precisely

NOTE.—All experimental science is so acted out by men, whether they give the theory aright or not. The first thing is to find the raw material, and its power of resistance by dead weight, or inertia, is the first point to be studied on its own centre of gravity, however dependent, or independent that may be of other holders. Then from that, the *force to mould*, or move it is decided, in its ratio on this *dead weight in each*.

the same as the mass—and the inertial force of the figure for a rule of rest and remainder is the same also as mass, &c., so that it is only by having the rule of coequality in the powers of all the properties by the mass, on the first law for general action, that a true base root of justice to work out the whole power in the circle of figures can exist at all. What then are figures and their properties to men, but what matter and its properties are to God, who has made man his intelligent imitator, that he may see how the rule of all properties in nature is carried out by figures, each made where nothing was before, but God. It is certain the person watching another over a sum of figures, sees *him* do the work and that the rules or properties he gives the figures, are only ideas of justice in his mind. That the figures must be real in solidity; but the properties depend on the immediate action of the person using them for their scale of motion and all just results; and are immaterial, yet affixed to a thing of sight. The first law of the figures is, that the man using them, must make them, and to continue the sum have power to rub them out, and renew their existence by the constant flow of the sum, to make new figures and restore old, as the enlargement of the sum requires; and the law of the sum is, that with any given number of existing figures, the sum of motion must be worked out in time, unless he has power and ability to introduce new figures at the working end, while stillness results the instant he withdraws his personal action, because the law for justice on ratios of circular power avows the figures and their properties are imbecile in themselves; the ratio of motion being by the ratio of two equals in which inertia the enemy of motion is one in first possession, which is here more than nine out of ten parts of the law. A full equality in the sceptre.

We have, therefore, so far proved there is no such property as gravity in nature, but what we so call is only by liberty, a title given for distinction in describing an act of the Almighty, who after all has as much to push his bodies together, as a man has to push his sum on, or in spite of the so-called properties of the figures all will be still, and rest-time be only one of universal idleness. Neither the figures, or the properties given them can do the work intended without their author as mover of them. This law of ratios, on the base root, of being never over the ratio of inertia by solidity applies equally to all properties for the universe, however variable for perfection their path, purpose, and most commanding centres may be; and when once introduced, as no figure can be annihilated in its substance from a perfect sum, but imbues that sum with its force for ever, so also no property or ratio of it can be introduced into a sum, but that the force as a whole, must be equivalent with all other properties to its first appointed unity, as an effective agency in proportion to the whole mass : *i.e.*, all the first properties of mere natural physics should have their ratio in the universe alike, although by the variations in their purposes they be not seated in the same ratios divisionally. And all properties embedded in one part must effect all. Hence all the diversity must be kept up from without against entire inside effort to the equilibrium of rest. Hereafter, therefore, we shall use the titles of these properties in the same common way convenience, for true intelligence, has endorsed on analysis.

This scale for divine action is the universe, over which, be the mass what it may, as the inertia is ever equal to the mass extant, motion must be forced, *until the equilibrium is attained, which for the place and relations of all are perfect to the rules*

of gravity; i.e., using the term gravity properly; not only for attraction, but the scale of just measures for places and proportions of all properties on the rule of interior apparent self-devotion to division and motion, which weight, by attraction, orders by a centre within, although the first force is free from without from God. This requisite appearance of self instruction is what the evil heart of man has laid hold of and been blinded by. Further, it is certain that motion is not sustainable in a present ratio one moment by gravitation in any mass without addition from without. The focus of power is always where the equilibrium is broken or maintained off the rule of the centre fullest. For if we take a glass of water, the water, encased and isolated by the glass, perfectly represents solidity in massive fluidity for motional ease; inertia according to the mass, and action and reaction within the mass, on the same ratio for intuition. Now if the motion once given be sustainable, it must be on the principle, inertia as the first law, or needed means of restraint over its action, was broken from perfect rest; i.e., by a person using an exterior troubler, which as an intrusive new mass, quite overcame and destroyed the old place of the centre of gravity within, and so set the whole body, to replace it, at work. To return to rest being the only work gravitation within can pretend to, or seek. It is certain that if the motion is to be sustained regularly and constantly in a force of the wave rise, the agent of novelty must be constant in use; and the instant the body moved, as the means of trouble, be dropped into the moved body, and become a constant part, and so be removed in functional position, or no longer new, as from an outer centre of action kept active, the *motion subsides*: gravitation, therefore, even in law,

in any mass cannot sustain motion an instant in equal force, but must decline towards perfect rest, and a pure horizontal circular line for all the fluid parts of the universe. Their action and reaction in physics are not equal for motion, but action is subduable under the sceptre of universal inertia in any mass; thus motion, as well as heat, are both subject to ejection of power as properties over matter by the first law matter requires for rule in stability; i.e., that inertia shall have the primal seat over motion from the body acting on itself. No motive action existing in matter, except it be seduced on to it by an agent from above and without, as new matter. True to these facts, all our natural and artificial experimental witnesses, not only lose all heat, except it be sustained from without in a ratio of gain in proportion to the expulsive force of the mass by pressure, but all motion unless it be commanded by means from above. This being the means divine wisdom has appointed for this universe, not because He cannot do it by miracle, but because it was wiser to set these laws before men, as, of Himself, in justice to the elements of sufficiency, over natural things, by an aspect of natural law, and thereby the better to shew how truly He is a covenant-keeping God. He needs no unnatural action to accomplish the thesis of physics when He has once made the thing or material to be used and featured its gifts or properties. The air ceases to move when its horizontal equilibrium level is not disturbed from above, the ocean does the same: and the harmony in all climates to the rule of solar altitude proves that is the final fact, although internal heat, supported only by the same cause, has a dying unity in the disturbance. That *latter force* would soon be subdued to its final

thread, but for the sufficient means of support from without. The law for all globes must be the law of the universe, or natural experiment must cease to be any guide. Thus in the air and ocean, we have proof, that the action of pressure on the centre, regulated alone on the resources laid up, must resolve into a system of such perfected equalization in the force, that the escape would be equal all round the circle, without ellipse, under the rule which makes the centre on the squares of pressures, and have no power of especial restoration for the eruptive action. But for external supply, on a line of specialities in succession, the last vital thread in the breath of a globe must escape most imperceptibly. Thus another evidence is patent to every geographer as proof that the forces and escapes of the calorific thread are in the exact ratio of the pressure, *i.e.*, that the dynamical force of heat is in the ratio of receipt by the same power the exhaustion is determined, but the lines of retirement always outward from any amount of mass. Force, by it, from the centre, is dependent on submitting to loss. This dynamical power of the universal action by draft, as suction or attraction, becomes then the sustaining force of all pressures in solid activities, and thus works the leverage power, *i.e.*, pump energy, which moves outwardly all the so-flowing fluid secretions of nature; and as in a growing system, by its addition,

NOTE.—In simple addition an arithmetical type of attraction, we can always add equals, *i.e.*, we can add 2 with 2, but we cannot force off a part of 2 with 2 nor with a greater in numbers, but we take a smaller number to subtract and divide, and yet only by an act of involution, which obtains the action of the principle mass, or heaviest weight of the sum to be divided by the more refined division. The power is by position in the lesser on the greater to work *through it, as fire, or as a refined refiner—such is light.*

as matter in constant supply, received on the outside, it must at every moment find a point of refraction from the centre of the body, and thus have the power, by its eruptive energy in each point, to disturb the whole mass:—such mass by its equal division under the properties light brings into action, and with itself ingrafts, becomes, in all its powers and properties by mass, subject to aid in the motion of its parts and whole. Thus the magnificent masses of globes are as easily worked as any minor organisms, as the immensity of the mass makes no difference to the principle of ease, and the order being given for the rotation once, this way or that, as long as the thread-line of exterior supply is provided, all the rest remains circulating. The law of nature is, therefore, the characteristic one of joy in vanity: for the whole system depends on the effort by growth to fill infinite space, and the line of action, is obtained by a rule which makes the fundamental law of the solid, *i.e.*, inertia, one of finding a centre of action for motion, or a centre against itself in first pressure, which is of rest; and the force of gravitation is used, by making the whole mass constantly work toward the gain of the equilibrium on the centre, and yet never to succeed in an eternal seeking of perfect stillness. The inertia-royal acts in all parts for rest and sleep; securing, for all, that happiness in the inner circle for the “good.” Thus truly did Paul say the universe was made subject to vanity, as far its first law of state for the first Adam was manifest. The hope of the settled is in the transfiguration of all saved to purer action and deeper rest, yet fuller life. Thus all other properties are dependent on this first law of nature; which is the first law of universal action in a sum, subject to *be worked under the first laws which give motion*

by arithmetical rules, and forms by geometrical mathematical proportions in the vital forces. They must all have a solid for resistance, and the first desire planted over inertia is to touch or kiss, as being brought together for the work of varying generations in marriage truthfulness, of functional sympathies, as seed, to develop the "good" in fitness for all parts of a circle of mutual dependences in competition for place and elevation of service, with no other bodies but those of their own genera, in space, where is a fair field and no favour for unjust partiality. God, doing all as his own acting law. Thus, pure justice is the prevailing law ordered and worked by God by his creation system, under his enforced generations as the creator of light.

The denial of the solidity of the atoms of light, and surrounding ether, is war against the law of a just scale or gravity; not merely as not the most, or only efficient motive power of nature, but as to its being a consistent foundation law at all. The instant touch ceases, leverage power is gone. For where attraction, or even magnetism exists, and acts in a supposed vacuum, the rule for its submissive association with mass is gone, and no mediator of the forces in time, so separated, would remain; as they enter one part of their space so it ends anywhere. This we shall see for the stars, and find how astronomers have failed in causes on their science, while their theories made gravitation work outside our air in sustaining and sweeping vast clods of inorganic matter, as they held globes to be, in a way all experiment proves the property cannot do within our second heaven, which could not of itself have been raised in the second day with any regulation for its expanse as a *secondary*, or be so sustained amid the

attraction of the vast solid around, without a checkbody outside, created in the just fair law in peculiarity, yet on the common law for all. But while philosophers would laugh at the idea that the expanse of a cloud, or the organic efficiency for flight in a bird could be sustained, and prevented from tortured burst and spread, without the compacting action of the air on them, they have not seen the same rule must be a requisite for comets, as clouds without water for refreshing, (inorganic masses of floating matter in the outer heaven,) and stars and globes with their tremendous forces of interior expansion. Surely if the little bird, or the mammal, need such a surrounding complete check on all the valvular issues of the refined gasses, although its little solids and skin assist, how much more must globes whose solids are only in proportion for especial retention, according to the mass; and whose powers of vital gaseous development have, in our globe for one, such immense fields of easy escape into complete loss, as the expanse of the ocean gives, the entire circle of upper air above it, and all other globe surfaces. Perceptive power, as to consistency in natural forces, appears in our day more at a discount than ever, and only to become the more confused by heavy laboratorial experiments in skilful manipulations and halfway readings of them afterwards. Thus, a line of constant addition on the law, most secret, easy, and accurate—arithmetical action—with the rule for power, to touch, is the necessary first force

NOTE.—Let those who maintain a globe can find a reactionary means of rise from the lower space in vacuo go to the Crystal Palace and study the means of support and return to the hand after an elliptical flight of the flying top. What would the top do without the justly equalised support and resistance of the air, but fall dead at once.

and property for motion, over inertia; and inertia being the rest for the leverage action, a mass must be first set down, as a dead dark sum, whose purpose and power has to be decided by the creator. A law as simple as the one referred to of progress, *i.e.*, as simple as that of a school-boy's initiation into arithmetic. How beautiful and yet how wonderful in power are the ways of God by their very simplicity. Out of this arises the law of apparent unity of force in action and reaction*. For while this law of added molecules entered the womb of nature, as addition, to become a living thread, and not as a sum of simple addition by a dead mass ever sticking to the outside, or surface, it required to be made also subtractive—now, the additional force of a sum of figures under just law for all the properties of a body, worked on the geometric fulness of a circle by a true semi-diameter, or any more simple sum, must have its subtractive property coined, or made equal in the first law of general weight, (that is in the rule of figures on their first properties, before especial properties are added,) exactly to the additional force. Hence a sum ever so justly worked, whether by dead figures or a slate, or living atoms which can have their operations so justly computed by arithmetical synopsis, will have the whole mass of its body exactly subdivisional under the first law of justice for motion over inertia, *i.e.*, that the subtractive or eruptive and fractional action, is exactly dependent

* Action and reaction are virtually equal in any sum, necessary for the pure ratio of arithmetical properties, but in any given sum, only from the start point, when it is all new, or renewed, and then only on a line for the division on the sum unto finish or death. God's eternally renewable law in nature, by new light, has made sceptics blinded **materialists**.

on the adding or solidifying power. And thus our bodies, our globes, or our universe, so truthfully worked, will have the rule of the solid ever solidifying in an equal ratio, with its proportion of subtractive or fluid running measure; the pressure force of the whole for solidification being of all in original inertia; and being made, by the thread of addition. Light as a body of light weight (or a measure of solidity as a real created figure) and its property of heat as the subtractive property, to use its whole volume force to divide all into the just relations of weight in the solid and fluid parts. Thus the exact constancy of effort toward the equalization of weight in the earth's waters, gasses, &c., with the solids is secure by the first law of their natural generations under light. The friction so sustained and developed by light, through, by disturbing the equilibrium of rest, being by the aid of all equal to the pressure for solidity. Thus it is that the centrifugal and centripetal forces can be virtually * called equal in the flight and motions of globes. Although in strict justice, as the vital thread excites while it forces the inertial power in the centripetal force to move and work against its own mass property, *ab initio*, we cannot say the conquered is equal to the conquerer; and yet as the

* The law of certain, necessary, initial ratio of equality in the resisting power and the working power in the thread of the entire universe is intended to be, as we see it, a theological demonstration in physics of how certainly all the righteousness of the Church of God can only be virtual, as it is the work of God "willing to do" in the body in spite of their full personality of unwillingness, or inertia according to the mass as according to the gift of faith, which is the only, and new eternal life, properly infused as an infinite in its base in morals by Jesus its *true Light*.

working stream has to stoop to conquer, i.e., submit to be weighty, and to be a new life property, fire, or the progressive one, which is further obtainable by action, or the leverage command over the whole sum by the constant order of change over the centre of gravity, whereby friction is generated, and the atoms are made to tear each other to pieces and mingle all the properties of conflict; this measure of mass power is equal, but the properties are not; subtraction being a higher progress in the laws of just arithmetic beyond addition, but only sustainable for ever by addition to the mass. Hence it follows, as we find in all experiments, leverage, which is obtained by this solid and chemical agency running through all the elements of a body, as of a living belly in a case, (like our steam locomotives,) is always the most easy and forcible to use, when there is skill for the combinations of matter, and so far superior to the power of simple solids on solids as in the hand-spike for leverage, by using thermal and electric ones.

Multiplication and division being only superior actions by massing figures into condensation of addition and subtraction must have, therefore, the same general ratio submission to the rule of the mass by entire enertia, and its varying fold power within itself in proportion to the claims of especial new properties, and their functions on the whole sum.

In every case, however, it will not matter what refined spiritual properties or moral attributes are introduced; all being made under the union of the first law, that is, necessary embodiment in atoms of inertia and attraction, they all must be associates in, for working out the common good, or as agents of the bad: and as all are in one body, the act of the most minute part, is stamped on all, and affecting

all for ever, according to the pressure to print by mass. From these laws and properties of nature, the mind is taught that the heart may be perfectly impressed from all sources with the rich assurance, that the revelation of the Creator respecting Himself in all his works, may become an absolute certainty to intelligent enquirers, so as to provide a faith which establishes the peace that cannot be disturbed—so far as correct views on creation can aid the work of the Cross. The laws are in their bases as simple as those of arithmetic, and therefore leave no ground for scepticism to find anything but just conclusions. Had the Church at a proper period, *i.e.*, as one of its first labours, studied the teaching of the first chapter of God's Book, geology could not have been such a source of mischief in the hands of unbelievers as it has; was it well to be incapable thereon?

The law of a trinity of bodily personalities in one unity,—Of three, having each their own centre of action, and all one in the Father for final decision, as the only means to actions of just comparison, is taught in the very first words of God on natural physics, as to the system of creation order under Him. The centre of the main solid over solidity, ruling all, as those submitting to its paternal government of common submission to personality, in the earth—the opaque mass; the heaven around it, as the entirely fluid body of fitted constitution, thus to submit to the major solid in importance, whose finished glory is the end it must work for, and command in order, and the ever newly, constantly generated, stream-light, the type of the Word, truly eternal in his generations from the Father's bosom. All based on the perfection of dominion, alone possible; when all *resolves* under and into the base root, the great *number One*. The first and the last, as found only

in the gift of God. We cannot place an 0 at the left hand point for entry in power over a sum to any good: but it has its value as a space eliminator in any other position. So of the effect of gravitation, in the cohesion of atoms and their form of aggregation. Space has no leverage power in itself, but the expansion of a body to a circular form, under a law which rules to order solidity into corporation, gives such body greater liberty in space, and more leverage power than by any mere square law of the plain. Grains of wheat as representatives of atoms of matter in most refined fluid submission to gravity, on their final centres, shew how the body may swell and leave spaces, and yet the arc power of the same aggregations by single atoms, be stronger to bear pressure or use for leverage, than the flat plain form, because the circle radiated within is the most perfect form of settlement, although it must occupy more space of one on another; yet the value of this gain in space is lost the instant the atoms have lost their submission to attraction and inertia as solids in gravity. If they do not touch, the thread of law is broken directly, for any means of leverage on or *from* the centre, *i.e.*, any power to work a circulation of vital constancy. Attraction must bring them to touch first, and then the disturbance by the new solids of the equilibrium toward rest, as over rest, puts all the mass to work to restore, or reduce the eruption on the backing ratio in inertia.

NOTE.—The first great impress of God on the human mind needs to be, that God, though an essential Spirit himself, immaterial in his essence, is a Person; the greatest effort of the sceptic is to deal with God as no person at all, but only a natural principle, or on some mythic basis of mental attribute in Him, as Dame Nature. Thus, in the creation, God's *first teaching* is the need of personality from Him, yet *not like Him in essence* in perfection.

Not only is matter necessarily required as a constant new generation from God, to preserve the status of any attained measure of motion in the things working seasons and time, but the sheer cipher, space, is made a power by being encompassed and filled to its degree as a measurer of solids touching, while its larger cipher standard, of outside infinitude, is the source of joy in the power of the God of all comfort, because it shews the "Rehoboth" of that infinitude for liberty and variety in the growth and breathing expansion of the creature in God.

If man, is incapable of planning and continuing such a unique sum on a circular mass of figures by new additions, it is certain God can, and is doing it; for the ellipses of globes are before us as a fact, working in perfect order to a time-law of material justice, in the most massive bodies, as the returns of the planets annually prove; and the power of the astronomer and civil engineer, with all physicists, to bring all these various actions in detail to the scales of computation, is his sufficient means to be assured that God so justly works out his eternal purpose in the Redeemer's word, as conceived by Him before one atom "was" for and by figures or solids.

In our common scales, the pendant beam, the scale for the solid, which is to proportion what is to be put into its opposite, as the floating new body weighing and weighed, must each exist, and all be in junction, as one scale with its gravitating general weight, as of entire inertia; all the action depending on the power in the volume of mass, and any other quality of the new added, (as it is justly proportioned to the power of attained inertia in the scale, and all the various properties used,) may have given its *parts*. Remove solidity as the needed primal holder *to the scale*, and no means exist of bringing law to

it, or resting it there; even if it be supposed to have the qualities of gunpowder or the more refined ones of electricity. And yet its measure must be a weight finite. So that Nature proves solidity must be a conveyor and retainer of all the immaterial properties of the universe, or they are mere unsuitable streams outside its laws unless we admit miracles: and yet as the measure on measure must be measurable, *i.e.*, subject to calculation by comparison, the one God who creates, sustains, and feeds all, being infinite in his resources for its hope of eternalization in supply, must be an immaterial Spirit, as any material corporation in Him, would, by its immeasurability, be beyond proportions, and crush all. The one proves the other. Thus, maintaining the necessary given materiality of this universe, as of a physical corporation to hold all properties, only, when rightly taught, demonstrates the immateriality of its God. In each organization within the universe, on its minor centre, and in the universe, as one body, on its main centre, these laws of the scale in distinctive parts and functions must exist. It is the foundation law of personality over all, no matter how many, how refined, or powerful the properties added for subdivision under it must be. The numeral order of atoms in weight, by solidity, must exist to give the foundation law of figures in the abstract of proportions, as such on the base root—the Central One. Thus, this earth, as the first made, must have had all other parts of the universe made to fit it. Whether we use chemical, galvanic, or electric forces, or ascend to the higher properties of instinct—moral law or gospel grace, the need of a bodily holder in submission to the

NOTE.—The law called gravity, or material attraction, should have been called the law of "addition," and, as we

scale of common attraction must be there; and the law is sealed to eternal truth in Jesus.

Hence we learn that sheer distance in space has no proportioning *power*, but is only the yard's length to measure the powers which it cannot give, or alter, or mediate, over physics in the first law of justice; and that when separation exists, the final proportioning properties must be simply mass, condensed or expanded in and between in space, however it may be aided by other properties embedded for the possible order in the refinement of the mass.

Thus, Newton's definition of the force of gravity is upset so far as it is given for any abstract law of the inverse ratio of the distance. A fact so easily proved, that the mistake is only to be accounted for, when we know astronomers never saw either the value, need, or proper function of a field of refined atoms, to constitute the separating mass by weight in leverage for floating support as a universal medium ruling in gravity over all.

For by Newton, if a pound weight of matter be put into a scale, and when two pounds are put against it, the weight or gravitating force of the one pound be lessened by rising—then, if mass be the rule for attractive force, mass must be altered by its simple motion in the raised scale, and it will be less in value by the simple act of trying its weight; or if distance alter

have proved, is the act of God, or his hold in inertia could not be overcome by a just ratio of power. Thus, as when all the parts have a law alike by mass, the whole mass must as a body: and as no motion, or change of any sort can take place without this law works to a part, so the law manifestly must live to the whole as one. This, the synopsis of God shews in the aspect of the words, "Let light be." Addition for ever in every character of blessing for the "good," i.e.,—*Be* for ever the formative agent and *motive thread*, so meant, peculiarly as abiding in place.

it, then the body so tried becomes less in value, without change in mass. The very value of the test actually being in the opposite rule, *i.e.*, that to prove the value of the mass, the rise in the scales must not affect the value in the mass, but that it may be taken out of the lesser scale after it is removed further from the earth's law to a nearer position to other bodies in the universal scale, and so it was found a pound was still a honest pound, "for a' that," even if taken to Jupiter, when the variation would be all under Jupiter's mass, but a boy would not find a pound of raisins more than a pound. Thus, mass in unity, mass in gravity, and mass in weight being synonymous expressions—distance has nothing to do with the matter. But as in weighing a pound the motion in time and impact being proportionable by comparison with things of the same nature, are found by this only rule of justice, *i.e.*, through a column of corpuscular chemically separable air, which by its floating weight on its own just centre rules the demonstration, the comparative value between a mass of iron, copper, or stone, or any gas, is attainable, as against its double in mass. Let distance or law by true vacuo come in, and the fundamental law of any proportion in physics is at an end.*

Copernicus proved this from the top of the Tower of Pisa. Vacuo would have placed feathers on equality with lead, *i.e.*, expansion of matter in vacuo has been ignored. God's own standard of abstract perfection must be the only final, because the only ever

* So much for the new dream that "the most valued of the generalizations of science in the present century are those of the conception of force, as being centered in points of space and not points of matter." Newton's views are not always right, but they are not so easily upset as our present philosophers think, on the value of solidity.

older and pre-existing scale of comparison;* it can be only seen in perfection, and so used by Himself, as the infinite can only reach to the infinite; but under his rule, He ever, while retaining testimony to his own standard as the one he must abide by for his own glory, brings all beings to a just scale. Matter, as matter in solidity by weight on inertia; higher properties by their own sympathies as so embedded for any sphere—Angels with angels, and men with “The Man” given by Him. The student of nature, by this thesis, obtained under the aid of the divinely given synopsis, having now proved to him how mistaken the greatest of the masters of the past in science was in the element of the property which was his own discovery, will be prepared for great changes of view on other points.

It is said of Newton that his mind was much impressed with the idea that some universal medium must exist, and it is not strange that his study of astronomic times with weights and measures, as associate facts under the same general apparent submission to the parallels of forces round a centre, should have so affected him; but he never settled the question, and so far from any other doing it, Professor Mitchell, of America, admitted this fact of Newton’s impression, and declared his judgment to be absolute against it; and the non-corpuscularity both of light as the force of motion by heat, and the

* We generally hold, where one means does a thing perfectly, another is intrusive and idle, yea, an incumbrance and trouble. Let the experimentalist draw four united tubes, one a supposed vacuum, the others filled with air, water, and mercury. The variations of the earth’s attraction on a ball of gold and feather is found nil in the vacuum, i.e., emptiness can do nothing: but in every medium the work can be done perfectly. Equal precipitation is the equal result in emptiness on all points.

equally non-gravitating power of the outer ether, has been the theory of our first men of science since the earlier parts of this work appeared: thus, leaving in our hands the entire service of the demonstrations as the gift of God through his Word. The author of this work has to confess, that in the earlier parts, bearing on the earth, as then the sole mass of the universe on one centre, he was so far blinded by common opinion about the inverse ratio of the distance, as not to see the absolute need that this distance can only be a line by measure of a column of refined and chemically divided substance, *sui generis*, subject to weight as the resting decider, and stamp refiner of all the measures among the associates. In this mistake he was the more readily left, because the initial power of disturbed matter is to sub-divide its own atoms, and like any other sum throw off to its bounds, for due finality in the radius of position under attraction, the final atoms of the floating cold ray of luminosity. Consequently, while dealing only with this earth, he dealt with this as the power producing the atmosphere, not perceiving that such secondary atmosphere could not be a secondary at all, but must be only for ever on the base ground of the first atmosphere, or final initial in circulating decision by universal circular pressure, as the pneumatic scale-stamp over all. Yet the due expansion and connection of matter under mere attraction and heat discharge was therein taught in 1862. When he came to the astronomic age this error left him in fixation, until the Word of Light regarding the first thing mentioned as a creation in the synopsis, shewed him the mistake; as the fact that gravitation, as attraction acting from all bodies, on all bodies from every quarter, must fill the intermediate spaces to the *final power* of subdivision in final atoms, was

taught on the principles of the first parts, by the laws of our atmosphere and the Zodiacal Light. Neither, however, with the solid circle of the earth's needed surface, could be checked in rising for their definite purposes and aspects, if a full heaven of fluid atoms in such a peculiar and sufficiently great distinction in chemistry and solidity, as to make them for ever a floating balance to an atom in their spheres, and yet an added circulating interjection with the thermal stream, by its power over the vortex wave-line, had not been made by fiat to decide interior tides.*

Fiat must have made the womb-law in God, for all the true proportioners of the scale of nature from the first, and so keeps the law of finality in rule to the end, to be a consistent creation of perfection. Upper surface purposes in solids demand the upper support and rise pressure of a fluid. If distance affects heavenly bodies in attraction on each other, except by reducing the column and expanse, ruling the association, and also in rising fluids on each other as the hindrance, then we are bound to at least believe the moon has lost mass by every nearer approach whereby she moves with more power our tidal wave. How is it made up again? Such is this part of the result on the first law of science, which when removed, by proving changes of mass in a given space can alone increase or relieve the attraction at work in that space, involves, that the law of addition or feeding, is the necessary first law of the finite volume—our universe—in the will of God,

* No balance fit to find the proportions of other matters has ever been efficient, unless the chemical distinction in its own unity has been the required possession. As the action of the universe is not only of variations in a flow and bar power gravitational of sheer weight, but of thermal sympathies and proportions also for each level in chemical *peculiarity*.

made manifest in its constitution, as tested by observation and experiment. The vast importance of what we are here about both to knowledge in physics, and for impression in the value and measure of God's love in revelation—theology and doctrine—will be evident to every honourable mind. Expansion for ever its law. Invisible like our air, and intangible to our scales, like some known gasses, because not even retainable in glass. Yet as we do not doubt the corpuscularity of either of them on our insufficient means of test, as yet noticed, we have no just reason for such doubt respecting the outer medium and light.

But such means of test are not so deficient when experiments are correctly collated; for if, as Professor Tyndal recounts in his late work on Thermal Dynamics, a nominal vacuum was found to so far contain material fluid, that a scent rose from dried leaves, and so overcame the attraction which held to stillness, or even descent, and caught the thermal ray; then, that the tube was full of a body, which had pressure on the scent rising from below, and the impact on the stream, by heat passing on in line to the full to affect the needle, proof is obtained, and that all the means of proportion on solids over solids existed; and that the thermal ray, and the luminous rays existing in the tube, have their just proofs of solidity—the one as the commanding power which can cut its way through all bodies, and the other as the proof of perfection in the subtractive law of the sum; that having been the work of all the mass in refinement on its own body, it cannot be refused from passing through again, without detection of error for its place, as the stamp over all for good, which path of passage has been made under the action of its own or

sisterly atoms of the same status in the law of constant radiation.* Had it not been so, that the experiment was with a medium of such similar refinement, it is well known, that the time and actions in all respects could not have been computed, while heavier atoms would fall in appearance, for so short a space, by equality and instantaneity. Does that prove that God's great engineering experiment in the vast divisions of stars has no corpuscular measurer, or cannot be made efficient? Does not the immensity of their distances for columns prove the contrary, so far as the difficulty to us is concerned in handling such refined floating mediums in experiment, although with us, the fall appears to be in vacuo, air being pumped out. Instantaneity and non-computability belong only to space as such—Why? but because it is nothing but space and not a made thing at all. It is an attribute only belonging to essential deity, and an infinity. It is only the yard measure of the glory in God by comparison within. Thus, the pressure force of the stream-light on a straight line is the leverage power of first sheer *force* in nature, as active on heaving masses, against the circular surrounding force of an ever-expanding veil of cold atoms of simple luminosity as compared with other masses, but in them of inertia and darkness in comparison with space, as an attribute or rather residence of God the Spirit.

* When a boy has finished a sum, if the quotient as of real figures proves the accuracy of the work, by any other effort only leaving the same remainder as quotient, is not that enough? and so universal law in all properties in physics being to make the needle fit the eye and the eye fit the needle for all pores and passing fluids, the cold radiated upper ether must pass through again what it made at first as light, without causing motion in its final reduction. Tyndal could not have had a vacuum or all would have been impossible.

The great teaching of all the purpose in creation conveys the idea of the dense or forcible—the first law of restraint for rule and order, as against the light and elastic; and the power it leaves to be both solid and authoritative, and yet luminous, to be easily seen through—is the question of completion throughout the works of the universe.

The need of our atmosphere as a secondary medium of greater density, was in its purpose of giving a fuller field for all the duplicate properties introduced into the organisms of this earth, in variations, such as the will of birds, mammals, &c., by instincts, and man by reason, while for the bodies organized to move in the upper ether the laws could only be of primal physics, in which their motions under all embedded properties, must at last resolve on lines and columns to the simple work of the scale beam by distinctions in solidity, or expanse, as distance in the masses so organized, or a column in the dividing ether. Hence, the laws of Kepler were discoverable and so perfect, as we shall further study and prove.

In the ocean for fish, Thermal forces have the peculiarity of being developed under a third scale of motional influence, and by the distinctions the laws of organic action demand on the combinations of matter for the forms, develope another beautiful set of proofs of how entirely one rule of a hydrostatic scale is the same as that of the pneumatic, *i.e.*, of a

NOTE.—So common are our experiments that glass cannot keep out all matter, that some glues will melt on being placed near a fire, when confined in a bottle—some will then dry, and some will only melt when the vessel holding them is plunged into hot water. So the fluid-preserving power is passed in a double character. A real vacuum no man can make, yet we get near enough, as recorded, to prove it useless as a proportioner on gravity or any other *immaterial* property of nature.

fluid on its own centre, whether for a lake or the more circular ocean. "A body hast thou prepared me" being the rejoicing admission of praise to the constant wisdom of God in all, that no confusion in the system should hinder his perfections, and its beauty being understood and *felt*. Thus, the outer medium is a type of the effect of the secret voice of the public whisper of society, which, by the congregational unity of the human race secures the least idea of truth or error, of fame or dishonour, will be the measurer of the value of service in each individual over the common fund: God, by his Word, retaining the outer scale of first and last decision over all in Christ,—all judgment being committed to his Son. How gravitation acts with such perfect justice in the times of the planets is therefore easily understood. They being like this earth, organized bodies, working over the heat-generating stream of the same orb, from which science has of late proved existing and heating metallic substances arrive, must submit to motion according to the most refined force in leverage of an atom of light and ether, as acting on their motions, not only by impact outside, but chemical projection through, in the vortex-awakened force of all their fluids against their solids, which, as we have seen, must be an exact half against half, (the full-pressure-power of mass against mass in a circle from any quarter,) as the horizontal level must work through the bodies for the line of pressure in inertia, in its settlement toward any point by attraction. The just claim of sides, a straight line between. Thus, the first law of perfection for the division of rule in orders of geometric justice is secured, with the sure resource of a constant renewal on the main line, *and all its inferiors*, by the law of resistance of solid *against solid*, however fiery or reduced in solidity.

because the volume of pressure by draft and hold (as proved in the earlier parts of this work,) secures, when the turn on line has been once given by the Maker's fiat, the force of the line of compulsion is on a tangent to the line of restraint.* The greatest force of heat by light being after noon, when the greatest forces over simple draft on the straight line of gravity, by centre on centre, is attained by refractory accumulation. And so of radiation escape after midnight.

The refined character of the medium makes its advantage the greater, as the more quick; for its whole vast volume in space must be its power on all globes within it, by the rule of the pneumatic balance; so that one atom of new light, as a solid, arriving at any one point, as it would destroy the exactitude of balance of all in the centre, even if the whole was allowed to settle to its perfect equilibrium, must move all the mass of the universe, by a rapidity in ratio to its heat and whole mass. To those philosophers who have studied the pneumatic balance as a function, this will be patent at once.

That weight and attraction are only synonymous terms when applied in respect to a universal medium as a final balance for all, will be apparent by the following facts on its rule of gift in mass only.

If we place a bladder containing a liquid which fills it in water, it will swim or sink in proportion to the comparative density of the contents to an equal compass of the water, and we see it getting lighter, if the bladder, being capable of stretch, can be forced to receive a gas, so that instead of sinking, it

* When a locomotive runs away, no one doubts but that some hand must have decided the line by the turn given the axis propeller. How then could inanimate law do it *for a globe*? (GENESIS i. 4.)

swims. But in fact the mass of matter within the veil is greater—and thus, the mass and weight (by his expression only,) appear not synonymous. If, however, we take the two volumes out, placing the water in a skin also, and weigh both in air, the gas we have used may be lighter than water, but heavier than air, and so we still can find mass and weight terms truly synonymous. The same, therefore, of a balloon; if its volume which has got lighter in our atmosphere by additions of coloric was taken to a sphere where a lighter medium became the test, then it falls in the scale against the volume of air so retained, when the mass of matter became greatest in its simple ratio as such. Thus, gas-making means in physics must submit to the embodiment required for their rule as weights because the results must.

But in each case, while a testing medium is required for the mass, for an original basis of attraction in universal definition over all other properties, means must be taken to hold the body weighed to a doubled centre, for unless the mass be centralized it can neither weigh or be weighed and thus we find the universal medium can only have its test power by being subject to variations of pressure and resistance on the constitution of its own atoms, as pressing on each other around one common centre; although when used to assist in raising many globes, each mass more solid than itself will affect the condensation of its atoms around them and that general centre.

When mass cannot be weighed by us against mass, by a common scale, but is in a medium inferior in density to our rule, then, as the refinement of the mass increases or decreases, the ratio of resistance by the rise and velocity through any medium gives the *proof*. It has been the want of correct study on

this point which produced the blunder about the inverse ratio of the distance.*

In water we find a penny will sink very slowly, because of its form as a plain, but both the penny and a solid globe of copper of the same mass, will sink more slowly as they get nearer the centre of attraction, proving plainly that error exists in any idea, either that the attraction is affected by mere distance or approach to the central point, where by the line of direction it seemed greatest.

In air, the flat body, and the globular, although the same in mass will vary in evidence of attraction by having different velocities, and yet both fall on an increase of velocity on their own first impulse according to the inverse ratio of the distance; but why has the distance here become a measure? only because it has been under the exact arrangement of the ratio of addition as the law of mass in a medium,

* One of the most simple demonstrations, that gravity can only work by mass on mass by touch, is one I used in a lecture, at my native town, Callington, Cornwall, to the Mechanic's Institute, where the subject was first demonstrated. A diagram with nine cubes in the form of a cross was shewn. Each cube supposed to represent the same mass in weight, and as a cross, shewed pressure, and its means of support on all angles. Remove one, and one-ninth of the support against union is, and must be, gone, and the space be reduced by the collapse of the rest under their ratio of attraction. Swell, either in space, and while mass in weight remains the same, the occupancy of more space, instead of strengthening the reactionary power, weakens it. Thus space between matter reduces the centrifugal force of sustainment, of necessity; now, as the whole power in each gift, for work, was of nine complete before, and no mathematical sign was needed for the space, as having any power on the attraction or against it, so, when one cube is gone its space has no power, but held in matter weakens its power. Is it not strange such a simple demonstration was never seen before. Yet so it is, and even the fact with it, that you cannot swell one without matter.

of a regulated and sufficiently refined mass. This being the case in the apparent rise and fall, and influence thereby, of the moon on the earth, a rule for gravitation in the abstract was given for all nature, which involved a host of contradictions; and thus the absolute evidence obtained in the submission of the moon and earth on each other's motions and fluids to the laws of attraction, as proofs there is a common upper medium, was not seen.

That mass alone can rule value in universal comparison in weight, and be demanded as a means of resistance in impact and support for motion and elevation, is proved by this fact, that no body has a law of abstract rule over its own atoms, on its own centre, for strength of parts on one another otherwise. The value of a body or figure must first be its value within itself, so that if a mechanic has made a wheel, to be set on other parts its forces must be first known, and then the position is of no difference, except as by its distance from the centre volumes of real solidity, as wind and weather, &c., are more or less liable to test its strength on the same scale of law. Mass against mass is, therefore, the first law of test in nature. The state of the mass itself, under other properties besides that of attraction, may mediate but can never allow the first law to be completely ignored by sheer emptiness, or space. When a universal medium is admitted to the field of scientific analysis, then the known law of universal action in any floating balance on its own centre to the least change of relations of all in its scale, with the power of its body, able by immensity of measure with expanse to increase in space to any rise required for its work, we shall have no difficulty in conceiving the capacity of our universal medium to separate bodies *whose* vast eruptive organic forces on their own cen-

tres, must assist in proportion to their size and the boil of their elements, as fusee balloons under a constant stream of supply from God, acting on all, however guided in peculiarity of lines and measures by their mutual relations in the common pot or veil, by the force of light by heat of matter new and expulsive. The vastitude of distances is at once explained in natural science, and the velocities are accounted for; as the force of impulse is according to the eruptive action within by the pressure of the bodily masses on all properties in nature, centralized and flowing, (with the weight of all the universe, as one medium on one centre,) made the force of push-pressure of bodies through itself in refinement, locally, according to the pressure-force awakened by the volume of new supply above equilibrium by light; and thus the ratio the spirit of life in all the wheels works the machine of the universe by, is as of a thing never turning but rushing around a common centre of its own according to the rise and fall forces given by mass in variations of density and organic order, wherein the ratio of relief, from over-pressure by the immensity of the mass is in exact ratio to the power of support within the whole; and so no pressure, as oppression, can occur by the law of eternal addition of matter; the relief-power in the breeze-law of life outward being ever attainable to any body in proportion to its need for that relief, and may be condensed according as its stores require to be preserved from too rapid radiation. All, therefore, further required for globes, as well as is found in trees or animals was correct organization in the seed-law of its conception, within the womb of its heaven, under the congealing and quickening of light, as was ordered for our earth, *sui generis*, or the immediate gift of such suitable disposition of all layers and

gaseous functions of fluid and solid in other globes; then as two heated masses of volatile matter, under chemical action on themselves, would in water fly apart in proportion to the density and increase of expanse in water—so of globes, separated in space, filled, filling, and emptying with the most refined light and ether; each globe, by common attraction, helping to sustain the other, as it has power to rise beyond it in a straight line from the centre. And as attraction acts on globes from globes, as from a point on which the whole mass is ruled, globes of greater mass, by being more expanded in diameter, as they will rise outside the more dense and difficult ones become, in a path of rotation, or in masses as congeries, aids to help the rise of others; as the initial value of their attractive power being not affected by distance, the column cannot any more than the space it occupies, interfere with that, except to aid also, although it must by its length and density affect the time which would be occupied under the sure conquest of the master law. Whether the speed increase or decrease, falling depends on densities. Now the law of this medium as the common ocean of flotative eruption, sustainment, restraint, and guidance of all the universe makes all such bodies but as larger atoms of it; and reduces the rule of ratio for mathematical comparison to the most simple one of the force of the straight line by length of its column, used as moving around a circle, *i.e.*, of the common law of the scale for the square root, two double one in a whole circular-volume-curve of pressures for the origination of the final straight leverage, which leverage is sustainable by the force of the flowing solid or the law of cubic powers, but elliptically by material refraction in variations. The *facts that* in the first three days the earth was the

more easy example to the thesis in which there can, to one universe, be but one weight, one scale, and one power;—her body—her first heaven, and light; and that afterwards this was associated with a vast extension of the home system her primordial relation also, as having the centre of the solid, over all, removed to a mightier globe, and vast congeries of stars, so afar as not even to her to appear to move around the centre, by the stately procession of all under general rules as one body moving, whose relations were to be the same to the centre does not in the least alter the characteristic of order under primal law; but that all must have been so organized, that one power, by the straight line of first leverage, in intent, however curved and twisted by drafts and refraction within, still exists and is used by, and using all other globes as machine blocks to raise one weight as the final end and escape of the tissue of light, constantly subject to a thread-line of condensation, until after passing through its thousands of crucibles it accomplishes its finished work in the carding of time on the circle of this earth's surface manufactory. The Mosaic synopsis is the only true fountain for pure science. Under this first law of necessary submission in all properties to a body of weight for their hold, chemistry acts, and then the chemical suitability of all the first atoms, of fiat-start arise, as a point of certain first-gift by the consistent Creator; and its atomic action and solution, with its pressure, become primary in aid of the chemical solution and precipitation of any other pneumatic volumes which are required during time; and as these must have their dominion perfect to their scale of start over their organic inhabitants, if such be designed as raised bodies in their place of time generations, they become the first objects to

obtain before beginning the genera they are to rule, as their especial own. Thus the links are made complete under the pressure of the universal medium, over all bodies in all properties, so that one false act in any (even those of the human mind by being bound to the just rule of order under God) becomes, by the quick convulsive throb of the entire universe, an act of the terrible shiver and doom of death.

The effect of pressures, in their ratios, on those of chemistry, and as the rules for time, now require a little attention.

It being found that a heaven, or medium, requires its globules to be made distinct floating atoms, and with such a chemical divergence from the surface of the mass it floats around, whether fluid or solid, that it becomes a sufficiently efficient scale-holder in a circuit line for bodies under trial, it is evident that any globe having its natural constitution very gaseous, to be suited for its position in distance from the centre, and so surrounded by vast volumes of cloud, does not give it the honour of possessing, a "heaven," or atmosphere, *sui generis*.

Thus the possession of this second gift to the earth secures a more solid body as an elastic outer buffer to the tremendous force her impact awakens on the common medium, and hides its existence by many reactionary lines of upper refraction to soften impact, but the value of it is brought to sight, if only

NOTE.—Astronomers have been in the habit of saying bodies would be so much heavier on Jupiter, than on the earth as the mass of Jupiter is greater, forgetting we do not weigh bodies by the earth, but the weight in both scales over it, one against the other; and so, besides the fact that the rise radiation from Jupiter would be increased also from his centre according to his mass force on the caloric therefrom, the scales would prove a pound a pound by a pound in all parts of the universe.

for this important purpose, by the telescopic evidence of its need in the constant circles and terrific sweeps of the belts of Jupiter. On the other hand the force of chemistry as the preserver and giver, the loosener and fixer of the barrier distinctions in fluid mediums, whereby they are kept apart as balances to weigh the fall of bodies against attraction, developes in the ocean another interregnum of this stamp, with this difference,—that while the first and second mediums, called heavens, in Scripture, so isolate bodies that their attraction is the same for a time-law of approval, allowing speed to increase by the *length of time* attraction is active, (not distance,) that of the ocean only reverses the ratios on time by density; as a ball, in air, has the whole of its own attractive force and the earth's to bring them together from the start, the medium only regulating the time as one or unity in pressure through to the touch: but no sooner does the ball enter the ocean than the earth's attraction loses by its whole horizontal semi-diameter of mass, left above, while the pressure as fast increases, so the fishy element had a distinct title although partaking of the properties in some respects of the two heavens. Hence, the under waters are called "seas," or assistants to fundamental law of consistent unity under God. Now chemical action is under the force called heat for its regulator unto solidity and solution. This property is made justly to work, therefore, on different and double lines, as we make simple subtraction work up and down the columns, and by the laws, new properties, in a double rule of three, decide across the horizon of the sum in division where also common multiplication, in solidity, is its work. Proving the laws of the sum true. Hence we find that the two elastic mediums only, which work thus on full circles in a perfect horizontal line to that of

attraction are called Heavens, or additions of light-demanding lifters in all qualities of life, because they only can act as complete rulers of full perfections in the parallelogram of forces for the earth and its upper inhabitants, by acting as the perpendicular force in the scale across the straight line of fall on increase by time in the fall, or the full increase in time of a force attainable by the length of mass. The rule through the ocean is its exact reverse on times and velocity in the fall *i.e.*, of a column in mass, as of arranged matter for use, over the full means in the "good" inversed by resistance toward the centre. In the earth, or any definite organism, as attraction could only bring the mass together for the halves to strike and develope pressure as two dead masses—like a nut-cracker, nothing would result under inertia added to by gravity of more matter, but increase of oppression and darkness of opacity, which was death increasing in its power; but by the thread of new mass coming in a line with a subtractive power also of penetration through, and the order in God to so quicken the whole as it entered, that it carried through the addition and subtractive powers on the same basis of the rule of the square root, (the only first just one in imitation of law,) the whole of its action became subject to work on its straight lines with addition until it reached the centre; and then, as it met the dead set of the whole mass, the vital thread became subject to accumulation or rejection. But for rejection in relief there must be a law for the division of the line; and this would be obtained by the effect of its own works on the spiral curve of entrance; for having so worked in superiority inward, the breaking-up the balance of gravitation, on a settled still mass, would decide where the point of *most* pressure by solidity of all the mass, obtained

the weakest point for a path of subtractive advantage for relief. Then, this must be another spiral staircase for the vital fluids according to the chemical condition given the original mass, as seed-law; but the escape must be on an angle from that of admission, the acuteness of such angle being also alterable by the constitution in seed of the mass, for any different form the wisdom and skill of the Creator did determine, and as we imitate in volatile mechanics of thermal resources. The line of this superior subtractive action in chemistry, necessarily resulted in the common action to leave a residuum in proportion to its activity and constancy by growth; and such superior residuum would be of the chemically-supported floating nature, which is the property from a subtractive root—leaving in the sink-line of entrance a solidifying measure of proportionate energy, axial. Then the constitution of a globe, or any organic life-votary, is so made by these beautiful laws of arithemetical ratio, that the solids are always increasing in power on one line of action, *i.e.*, of sinkage, and the fluid volume refiningly always on the other. The globe, instead of being a dead body under pressure, still continuing to have this on all the scale by half against half; for the propulsive force has also a vital division in two lines of thermal variation across the other within its own body, by the accumulatory force of the fiery stream of life

NOTE.—It will be seen hereafter, that we are contending against the views of our astronomers, who hold with great fixity this rule of solid fixation for the centre, but without the least idea of any subtractive force from it, so all the result of flow from above is on their hands for a complete dead solid very shortly; on the other hand the thermal dynamical men have one without a bar and no axial preserving original cause, for the superior ratio of an axis *exists as a thing naturally formed in advantage.*

toward the centre, and its declining power in radiation.* But the one prime act of new light by fire is to make more sediment for the solid, so that proves addition of new matter must be the law in the cause, because it is in the effect. The ocean is the volume of subtractive division obtained by the immense avenues put forth to raise the solid hills in great and superior energy of light on the third day.

This law of separation, to leave a residuum, as the peculiar and necessary just gift of the third or subtractive property of matter—fire, will be evident to the philosopher who has studied the temple of nature as one in which the astronomical ratios of roots in mathematical accuracy are at work; for we can add all the mass as nine can be fully added to nine, and make a solid in one figure, but endeavour to subtract nine from nine and nothing is the result of it, but of our whole sum of half against half. Thus the force of dynamical pressures in matter by inertia under attraction (as the universal thirst-law of nature toward the outside of its figure all round for more) is to give full force to all the system in mass for the high-pressure power, and then the initial of a property to carry on circulation by subtraction against addition, involves again the beautiful fact that the fundamental system under God is secure of the good to an atom by his power to create more of nothing. The more the mass increases, the more the pressure; but at the quickening point and heart-centre of that pressure, the elbow-force in fire secures only the more refined and quick pulsation

* The solid inside sinkage of the coral islands and their resultant force on the reefs ever exteriorly developed, with serrated edges toward the ocean, illustrate this general law of the earth's growth downward and upward on the two *lines of latitude and longitude* in the forces of the cold *growing solid* and the hot pool of fluid issues inside.

of subtractive energy for life over death. This fact in the abstract law of physics has blinded men of science, who finding by minute and beautiful experiments on so called thermal dynamics, the force of heat on the needle, and that motion when forced produces an equivalent of heat, and heat of motion for the first moment, have lost sight of true philosophical respect for definitions, and called heat the same as motion—that is, the cause and effect alike; because the work on a beautiful system of just reserve for reactions—so that there should be no dead weight in the universe—is based on No. 1 for a root. Motion is simply the *act* of overcoming native inertia, not the means; and if, as we proved, the initial figure of attraction cannot be more than that of inertia, which it has to transform and sustain to a motive power, so in the same figure, however vast, it cannot but be still, until worked by the spirit of God—who uses the substances under these just laws—how then can the property which must ever leave an atom of remainder, *i.e.*, of greater force against itself, be the sufficient force of motion. Sediment being the end of fire obtained by the use of matter on its parts over each other. Can human experimentalists by sight observe the proportions of nature to an atom, as God works it? If they lose sight of the true keys, as in commentating on Count Rumford's experiment has been done, can they expect to follow the wondrous needle of God correctly.*

* If twenty men start in a circle and one force down the next, the action would, according to the first force given, generate the same result on all; but that would not be enough to put them all upright again, as a result of the law of communications of motion. Yet this is Doctor Tyndal's vaunted system for the universe, merely because heat and motion justly generate each other—no weight to raise up the heavy masses swiftly and universally falling, without light, is found in *column sufficiency*.

When men can see, as a guide to practical economy in nature, that the Count's experiment on mangled refined atoms of air, ether and light, would not do, because the thread of power at one end is exhausting matter in such rapidity, that the food the animals used, to work the vortex, consume and cost more than the value of heat obtained, and yet not see that this is at once the admission wanted, when the thread of forces is fully traced backward, and exhaustion observed in matter for the need of new matter to supply the vortex worked on the rule of the Creator's justice to law, we can only exhort them to be true to their own experiments and personalities throughout. Now this law of subtractive action by the feeding power, as of universal law for the precipitate of the heaviest parts, teaches us where the forces of ruin begin in organized bodies. For as all are dependences of the universe as the maternal one—the vital action in it may be indestructibly perfect in God, and yet He may appoint a partial or perfect association of another body under it at will. Then globes can have this law in their bodies and spheres of motion under light, as perfect for eternal steadiness to time and place, as that of the universal heart. Animals on this earth may be made in their life power subject to only the length of a thread, and man might have it incorporate, as a globe had, because it depended only on the state of the seed given by God for the pure and full rotation under law, and so God could make it a liability of loss under moral character when that property was ingrafted, although a rational home and real possession at first in the physics. Then the appointed means for the subtractive force to practically generate itself under attraction on inertia, as the gift-property-force, in disturbing the constant *seeker of equilibrium by giving life by eternal*

additions, was only necessary to be by motion at friction, and then when the additional multiples of violence came in of added properties, or chemical variations of the same, the most powerful heats must justly be developed, by that enforced bruising of these more refined invisible atoms; which, however alike in atomic lightness, are the most distinct in attribute subtractive. So as the chemical antipathy of nitrogen—oxygen and hydrogen keep them mixed, but floating together, as distinct volumes in the fields of upper fluid residuums, and the final radiating cold stream from globes as the luminous ray, is easily separable from the vortex-working thermal new supply, but float as distinct volumes without conflict together, when free, it followed by all the just laws of universal divergence which are to develop the forces of conflict for disruption in the multiples of forces on the common ratio of the universal pressure of the masses that, when these refined atoms were brought into a sort of screw pestle and mortar for quick conjunction and destroyed self-unity by friction, that unless great heat from invisible atoms was developed, *i.e.*, great confusion of chemical sympathies let loose in opposition, just law would not be correctly carried out by the ruling spirit over all. But it was so, and merely because these powerful but refined antagonisms were not to be caught for a scale on the counter, they pass for nothing, and the mere fact of motion was supposed to do the work—Why then was the contact of the heavy bodies required as the bruising place of the vapours and their own loss by friction in the mixture? Why would not the same velocity produce the same heat in open air, or even a vacuum, if, as Professor Tyndal teaches, motion is heat, then motion ought, without difference of mass to produce

it, by more friction, be heat. The experiment only proved the pure justice of the Almighty to the simple and compound laws of his scale, while he might well laugh at the philosophers who looked into the cauldron, (like countrymen who cannot even see the water move, while the philosopher with his microscope tells him there is a battle between the animalculæ of two races going on in the field,) because, by no other experiment of chemistry from the lost mass of solids, they maintain the same heat could be emitted and forget the reserve forces of fluids, as though they had never studied gasses or even the latent force of a grain of gunpowder when the volumes of light, heat, luminosity, air, &c., by its ignition have power to unite at a point, in discord on the balance of places for equilibrium in gravity on the centre. Surely the experiment on power and its loss, as a guide to the ultimate ratios in nature, begun in that first measured and exhausted to get the heat up in the animal's food working the screw. The grand error in all Professor Tyndal's system, and such like it, is not knowing the base root law; for this universe is of matter on matter, by that superiority of weight from above, which forces all the mass by gravitation to move from the centre as the lighter exhausting the hills when its line is not justly towards it, as the working thread—*i.e.*, not studying gravitation properly as a means of stability under inertia, and what it depends on for motion; for if motion is heat and heat its cause, why do we always below require to find the real solid weight above the mass to move it whether in sheer solid or by making a vortex cauldron of chemical antagonisms, which unites with, and brings all the upper forces of weight to aid, which *we* must arrange as columns, and which are all exhaustive and costly. Thus, all properties have a scale

of superiorities, simply as gifts in matter, without one atom of power in self or constant quickening; one being the first required for the backing, as in figures needed to be handled by the lawful ruler, God himself, on the base root of all order for all powers, by the square root on the cubic or force of the sphere, equal in each for or against. Hence, properly speaking, attraction itself has no self-dynamical power, but it is absolute in inertia as a sufficiency for complete immobility against all other properties in nature left alone. Yet attraction is really the only one which has the life *aspect* of the gift, because while it must be worked by omnipotence all through, its force is so far imperial in the greater mass as of matter in greater governing solidity, drawing and pumping up from the centre the lesser toward death and resurrection.

Thus, discovery in science, as it progresses, without the aid of the divinely-given synopsis, is only making confusion the greater, and all nature sheer mysticism. In God's hands, however, Inertia is the most profound or deep original gift or spiritual property matter required to have by solidity and immensity of the mass acting in unity. Attraction to add and lift by the only natural dynamics next. Fire next, (yet the highest as over the olden ones,) to enable the most refined matters to cut through and unite with the heavy to all parts by accumulation under resistance or refraction. So fire is rather a spiritual than a true dynamical force—a quickener and improver of it in atoms. Dynamical power is never as of the sum said to be in subtraction or even addition in arithmetic, but in the figures as solids on each other. We pray physicists to let the next generation at all events, get some progress out of our studies and sense out of nature.

How do men of science learn to apply gravitation

to the moon, except by observation on a few facts, and inductive reasoning for the others in the consistency of the Creator's will whether they call him God or Nature? They have not visited her to find her parts have weight towards her centre—and where is the difficulty about her motions being subject to all the other common properties of nature as under a scale of justice for guidance, velocity and support. Hence it follows, she and all the stars are upheld by a universal corpuscular medium, or all research into unique truthfulness in natural physics is at an end. So also heat is evolved by bruising fluids and solids however minute. Have not men of science admitted it when saying the action of an infant's foot or voice vibrates to the bounds of the universe, because motion runs out—How? if there be no physical conductor, remains for them to shew; while the experiments of a nursery for children, a hospital, or a green-house prove that the thermal heat must suit the constitution of each body by its relative position around the source of heat-supply, and the whole mass be subject to constant radiation to eternal loss, without a forcing means from without to secure the draft-returns of the cold, in more matter for the body, and keep up *drag-wrought* friction. As evidence on this question will be constantly turning up in our progress through the astronomic thesis, we shall now look at the evidence the *Principia* of Newton provides, that the universal medium exists, and find it circumstantially proved by his problems, whether he saw that as one result or not. By a correct attainment of the facts proved there we shall establish the evidence for our already preserved conclusions, if further proof be needed, and leave many of the illustrious mathematician's hypothetical impressions *far behind*, as far as causes and properties in natural

physics over motion are considered. Indeed, the idea that one power can be over another, and yet that other its equal, able to do with an equal ratio, self-generated, the work of perpetual motion against its master is an absurd use of the idea, *force*, at all. And however the ratios of unity on inertia—attraction and subtractive fire, for chemical fluid force and all new compounds, are here proved to have such necessary unity within the skin of the universe, yet still, the superior empiry of a seat of peculiarity, and equally distinct line of preponderance need exist for each; and as the line of advantage for any settled force of gravity and inertial solidification is toward the heart-centre for universal rigidity, while that of motive force is extractive, tangential, and radiating, to avoid such fixity as must produce a collapse to stillness, and while the demand on divine wisdom is certain to a covenant action of truth for the agency of his Spirit within, so that the addition line must depend on addition to mass for preserving the force of pressure, onward for ever, against relapse, as the only means to keep the leverage on one path preponderating,—the unity of the ratios in the opposing properties are so held by us here that the true laws of justice, in harmony with experiment are asserted without inconsistent mistake as to the rule “to feed” being associated with the rule “to live” and “to move” throughout the universe with “to be.” The Almighty preferring to work by miracle here, so that the act is one of justice to the law that is perfect in the natural line of things, which teach men the dependence for the vital flow of the universe under such laws as make it subject to experimental demonstration. Thus science and revelation work together to lead to God; for when we speak of the creation of new matter we may perhaps call it miracle.

although not eccentric to law. Motion, then, is proved to be the passing of a mass of inert substance from place to place in space, against which every atom of matter, whether new, as light from God, or old, requires for the just law of restraint over its forces of motion, that every atom shall have a ratio of resistance to motion in space equal to its solidity; but by the sustained inequality of the balance is, by gravitation, all made to work above it. Thus the solid sphere is built on its own means for an axis and foundation, holding space in God on nothing, and out of nothing, under the property of whole inertia; and God then quickens each atom with a vital spirit of action by the touch of the new stream as a leverage gift of a new grace: so that all the old mass like a dead row of figures become quickened by a new number with the properties of the old nature in bar divisions as ours, thus, () and the rules of truth in power go on. Newton establishes this, although he saw it not. His difficulties, with all others, were based on the supposition that any universal medium must be a hindrance to regularity of motion instead of what sweeps all those difficulties aside—that it is a necessary co-worker and final stamp-press for the accuracy of all. The final regulator under God. His definition of the Centrifugal Force is—(*Principia, Notes to Sec. II, Def. 59.*)

“Whatever tends constantly to solicit or impel a body towards a fixed point or centre is called a centripetal force. The centripetal force which is found in the sun and planets, is, by way of distinction, called

NOTE.—The chemical antipathy law, and its just ratio, are proved efficient to ratios of need in law by the power of two streams of light to pass in opposite lines in the same space without contention: as the reflected light of the moon to us, and ours to her without confusion of character or mixture of volume in resistance of each other.

gravity, or the force of gravity." The word "impel" may do, but "compel" would be over-strong. Mutual attraction can at best be only called mutual solicitation by mutual impulse, or rather as love is a mutual thirst for union. Thus, the increase of matter with this property is really to shew the law of increase in love as the needed stamp feature of God's testimony by the first law of motion in creation; and then the property of fire, for the law of sub-division and separation becomes the law of division, as allowed only under a law of love, which can only go on, as the inferior in power, working for ever; only on a full ratio, as the preventive of dead weight, or death, in preponderating gain, by the need of new matter bringing more inertia in stability, but at first as over-weight one side of the centre. A strange mass. Compulsion only begins when the new weight in love comes from God on the verge of the old, and then its over ratio is prevented from becoming a useless excrescence by its being sucked in as food, and so putting the whole mass at work for the line of the equilibrium. Thus, the universe must be drawn on by the new creation of the hot breath from the mouth of God, in its effort to swallow and digest it within. The suited type of the fire and life in his word, or hot milk of light from his bosom. Newton, in the next passage, gives us the whole question for a success. He says, page 60—"The word gravity is used in *three different* measures." These, he then defines, so as to give them all the properties requisite for full motion and its regulation. Thus, the question, What overcomes inertia? is begged and jumped over.

Now, no simple property can be its own measurer in reduction, for that would simply be the reduction of its ratio of force altogether, or absurd inconsis-

tency. Thus, gravity is here used properly as a term; but certainly more than attraction to a single or universal centre, as an inward impulse in all solids, is required to keep up all the lines and measures of weighing matter going on in the universe, as the whole is not falling toward the centre, and not even in the ratio of weight among planets, that we know of yet. Some of the largest being highest. Thus, one definition proclaims the failure of the other, and richly endorses the claim of the Mosaic account to the greater perfectness in the choice of scientific terms, as Darkness for the heavy, and Light for the motive power.

Attraction, however, only brings about adhesion: cohesion requires chemical action by the matriculation of matter under chemical dynastical distinctions, for the rule of substances in their spheres in distance and natures from the centre, *i.e.* height of attainment or climate. The most unsophisticated reader will perceive that when Newton has thus swept all the honours of electricity, light, magnetic attraction—heat, &c., &c. into his page for the glory of his own discovery of primary attraction toward the centre, that the problems as mere measurements of astronomical facts, might go on swimmingly to the great satisfaction of his enthralled followers, who were dazzled by his genius and had none of their own to go deeper.

If the term gravitation is to be used for the whole work of weighing well—but then attraction of matter is but one part of the natural functions of physics required—that is, only the means to the centripetal force on the line of fall; varying by its work of a mass, added or subtracted from a mass, whether for the line, or the solid-ruling circular gravitating power in a sustained overthrow of equilibrium. When

speaking about a centrifugal force he again shews where his difficulties were. He says—107,—“Strictly speaking, the term *force*, applied to this tendency of a body to recede from the centre in consequence of its rotation around it, is inaccurate; it being merely the effect of that property of matter of preserving in its rectilineal direction; it is consequently denominated a Force, merely because we must employ force to move a body.” If we must employ one is it not one, and a constant necessity for ever? Here the student will observe the law of inertia by solidity in space, in the ratio of mass, as the very first means to strict rule for the restoration to rest and check against constantly increasing motion, or even constantly equalized motion, is quite got rid of in one sentence, and yet admitted in another. For if bodies once put in motion have not the check-law, first, in their own mass according to its ratio, how should the universe when all are in motion? How is the solar orb to check and increase, as alternately required, the forward path through space of his planets, when he has immensely superior rectilineal motion, if he had a natural sufficient tendency of his own to keep it up because it exists. If confusion existed before, it remains worse confounded as to any consistency in the laws of gravity. The planets must have it too. Where did Newton ever find for experiment any body which in our sphere gave the idea that a finite motion could be continued through space across the centre of a greater mass, acting *ad infinitum* on a lesser, unless the motion continued had a continuing means, by the non-exhaustion of stores of solid matter to keep it up. So of that of the whole universe as one mass. Dr. Tyndall’s entire experiments on Thermal Dynamics only proved that matter must be used up *below into a reduced and dying-out measure, unless*

new was obtained. When we see the mass found and worked, that on the same mass completes its own circle of rotations of force, without borrowing, begging, or stealing in the experiments, on the small scale, we may believe it for the greater. And then all law of truth to justice and judgment in ratios of forces on main lines of power must be gone for ever, for a sheer jumble of mysterious miraculous jugglery. This *we* do not charge the Creator with. Our eye sees his hand and his just ratios of law in his works. If a real force is needed for the check or drag balance against motion, a real force must be needed to sustain motion against the perpetual action of the check or drag by which friction only begins, and this must be a force of real matter in the one case as in the other, as our own bellies, given to radiation off, prove. Two negatives in natural physics at all events will not make an affirmative of an opposite character but only affirm the inertial figure doubled.

The impact of a body when acquired is a real power, but not a generator or sustainer of itself. When an engineer makes such a mistake at a military college as to call the impact of the ball by weight and velocity, the same as the centrifugal first force of powder in explosion which caused it, he is I opine taught that he could only hope to secure the object of distance for destruction, by the desirable fact to the attacking party that inertia should be a real property in the ball and the medium it passes

NOTE.—We here learn how being in one error secures the fall into another. To obtain the compensations required, philosophers having no idea, and as we now find no willingness, when it is presented with evidence, (to see the need of the constant creation of a vortex-force over all the universe out of nothing by Jehovah, to help the globes to fly,) got rid of a medium as a resistance drag, and wanted to set the globes free in empty space.

through, as of matter by existence in space, otherwise where is the power of check in a fine atmosphere at all, or why gets that still when once it was in motion too, rectilineally by the push of the ball? To repeat his experiment he must exhaust more powder. The fact was, Newton had never considered the physical force of light matter under fire as a subject in the study of the globes. Yet his acknowledged predispositions under the exercise of a just perception by true law shews, how joyfully he would accept the true evidence to the commanding royalty in its universal fulness in the law he did discover, and in some respects define correctly, *i.e.*, solidity by attraction the foundation of increase in power. It is a common law of all natures, that all the properties of the being shall be conjoined in the body, and thus unless atomic weight has its means of universal touch, however lightly disposed, or by other properties relieved, the law of covenant order for unity and justice is cut off.

Newton, here, has confused the constant tendency to fall by attraction as a native impulse, the partial tendency to continual impulse (right across the line of the other) which is only a secondary and enforced action as one, and in other parts of his *Principia* he has divided the rectilinear line to find the force of the centrifugal and centripetal part belonging to the motion of the body so considered. If the centrifugal force was the rectilinear *tendency* as a whole, how, as in the problems we shall examine, could it be a guide to finding a centrifugal force which is only its part in the work done, by one perpendicular for both the centripetal and centrifugal? But now we shall find, in passing from Newton's explanations on Causes and Properties to his problems, how he exactly submits to the *Mosaic testimony*, that the true Force must

work in vertex, or perpendicular law turned, by refraction in matter, to an angular line of opposition to that of the property of attraction in the mass moved, or the centripetal force. Not, at first, a perpendicular on it, or the rectilineal line which is quite a worked resultant; and then how he obtains the variations of the living angle, or elbow of matter, which shews their measures of mutual attainment of precedence along the ever fluctuating variations of the tangential line, where two forces are virtually and justly owned to be at work in one body, as the moving unit under their forces around its centre. Thus, organization is in evidence for the stars in the just reading of *The Principia*. Refraction in solids of light the aid for the elbow in ellipse. He uses five diagrams which we need to consider. See *Fig. 57*: he says, "Thus, let P Q be an arc described in an indefinitely small given time, S the centre of force; resolve P Q into P T and T Q, and with S as centre and S Q as radius describe the circular arc Q X. Now since P Q represents the whole motion of the body, P T will represent that part of it which is towards the centre; and by this *alone* the body would be found at the distance ST from the centre at the end of the given time; but in consequence of the motion T Q perpendicular to S P, it is really found at Q at the end of a given time, and at a distance from the centre—S Q or S X.

"In consequence *** of the perpendicular T Q, the body has receded from the centre through a space

NOTE.—So beautifully is correct abstract science interwoven in Holy Writ that in contradistinction to the fruits of unbelief illustrated between Lot and Abraham's choice—sight instead of faith—the Word says,

And Abraham was very heavy in cattle in silver and gold. (*Marg.*) yet he had no difficulty in keeping or moving with his additions in wealth. The power came with the acquisition in the covenant truth of God's "Good."

—T X which *** by the definition is a measure of the centrifugal force.”

A more extraordinary reading can scarcely be conceived as common observation on the paper sets it aside.

In the first place the centre S, is supposed to be the point from which two forces act on a body at P. The one force is centripetal attraction, a full impulse or passion, by mass of both bodies to unite along the line S P to collapse. The only perpendicular line to that line of motion for the body at P straight down the same space to S, is for P or rather for both bodies straight away from each other to increase their distance, by their whole motion. Thus force over the measure of gravity by mass of both in inertia and attraction, or a double over-force to either, alone is needed; for the inertia against attraction itself will ever keep them still on the line of junction, by the royalty claim of space to hold as the first law or possession; i.e., as space cannot loosen the royalty law of inertia in the hand of God, then the force of attraction by the quickening of his Spirit to the aid of love for union, addingly, seeks to bring them straight together, and both these are according to mass for a strata covenant law of justice; and so a force to enlarge the distance must be so much dividing of a threefold power in the mass ratio, the double to inertia being required for attraction or a therein property organized in both for their centres of gravity to gain and there to develope as the combining force, i.e., a chemical property doubling both stability and freedom by gravity and trebling it for radiation. In earthly experiments we do not confuse the ideas, —a perpendicular *on* and *of* a line, yet we find it in Newton's *Principia* and see why!—If a shot be thrown from where we stand beside the cannon used, and we

are told it is thrown by a centrifugal force perpendicular to the centripetal, our nerves may become rather shaken as to the accuracy of the elevation, if not secure it will fall right back into the chamber of deliverance; but we are not exactly expecting our safety so near, if the shot be rectilineal, and point-blank towards us, and that our engineer is rather defective in terms and style. Newton, then, here supposes, and so concedes, that *our known* powers exist, and are so organized in stars; the one so as to work towards a true perpendicular *from* the centre of the universe, (where the whole power of his discovered law of attraction would otherwise submerge the mass, until it was one solid in silent darkness and stillness for ever,) and having a pliancy to bend to a rectilineal line of varied angles circulating. The right arm of God, used in covenant over the solid, is the constant exercise of the same exclusive power, which belonging alone to Him, was the proof to Adam (after he was moved to Eden, to see the new creations of flora and domestic animals,) and to the multitude fed by Jesus, that he is God, *i.e.*, the creator of new substance out of nothing. The steadily sustained flight and times of the planets prove this by scientific demonstration as plainly as ever. Thus our former premises that the whole universe is a well-ordered temple of types to true theology and doctrine, as well as a means of blessing to our temporal need, is proved in beauty, sublimity, and equity.

On this problem Newton says, Now, since P Q represents the whole motion of the body, P T will represent that part of it which is towards the centre. The modern philosophers, who confound motion with its forcing causes, have certainly the consolation here of finding the greater mind of their prince of *physicists* making it also. For all the motion was

simply along P Q ; but what properties and lines of inclination in forces in conflict on the centre of P did it, or what share belonged in the struggle to each is another matter.

Any part of the *motion* must be measured on the line of motion, or otherwise how is Kepler's second law for the equal spaces of the radius vector with reduced lengths, but in equal times, to be got at ? If we are measuring the motions it must be a question of the time or law of mediated velocity on comparison of actions in the whole body of the universe, by taking the velocity, or full rotation of one part, from point to point, as a scale. The perfection with which this is done in a globe, not only on the ratio of properties, for motion against the initial energy of inertia and attraction, but on the complicated activities of chemistry and magnetic attraction also, proves how perfectly the law of constant submission in all the properties, to be alive only by a solid for its residence, has been attended to by the Creator, so that time is the given order of comparative activity in nature on its own fundamental laws as organic associates, as we can on the same laws organize and compare the forces of our velocipedes of wind, water, air and steam or even gasses and electricity. We usually measure a motion after it is known, but we measure out the forces if we have wisdom and true skill first which is to make the motion, if it be of

NOTE.—No doubt many readers will be amazed at the audacity of any one attacking the accuracy of Newton's *Principia* ; but let them remember great men may err on some points, and we need not be slaves to names. If Newton has used the same term for two things which differ, not knowing one of them correctly, and thrown them indifferently together in his expositions, it is impossible but he must have often contradicted himself in terms, if not in *geometry*.

our creations, or we make a muck of it. Thus, *we* do not call motion and heat the same thing.

P T is a straight line for motion on P S, while the actual motion was all a curve—which crooked thing mathematics can boldly manage to make straight on the just law of the circle for any perfect measure in unity of power in it, and why? but because a circle, measured by its radius from the centre is reducible to a comparison in time.* Newton, then, was measuring two forces, which can only be called equal on the rule, that both must be equal to their business by uniting to dispose of one body, i.e., both equal to their work, as organized in and of the body flying; but as a calculation of the power of the centrifugal force to work the oracle of time by a body sustained, and moved around S, where the point of superior centripetal force resided, he was finding the power of the greater over that lesser on the straight line S P extant at the time of start, and extant all through the motion in a line straight from one body towards the other. He is obliged here to correctly designate the motive power *a force against a tendency*. In *Problem 57* then we find Newton was measuring all the primary forces which regulated as well as caused the motion of a body

* The circumference of a circle is three times the diameter, and a seventh, or measure of evidence for power needed to work it against mass in a circle of a seventh over force for a gain in law, as we shall see.

NOTE.—The idea of the poet is as true for the universe on a body forced to revolve around its own centre, as for a globe.

“A kind, a philosophic calm—
The cool creation wears.
And what day drank of dewy streams
The gentle night repairs.” (*Cunningham.*)

What are the repairs if not in solida, to the whole mass new?

from P to Q. That the resisting or curbing force is nature's natural tendency to inertia, first grinding along or grumbling and desiring junction on the perpendicular of separation, both of which are equal to mass or solidity of being in all bodies between S and P. That S Q, being the measure of the actual last position from P, has in S X its equal as the same distance, so that P X the other part of the whole first distance is the amount of loss in elevation or the triumph of the centripetal force over the centrifugal; and so P X measures the comparative advantage of the centripetal force in the straight line. Now S X must be also the retained force of some real force, as it is the other part of the whole line, when only too forces working in each other's perpendicular is to be measured, S Q and S X being equals from S.

Of what use then is T X?—What did the worthy astronomer and geometer prove by it? but the power of a requisite third body or force in mass required in all nature to regulate a curve—under a straight force up against a straight force down the line. What would the nautical engineer—the cannonier—the common mechanic, or any other, use it for, but the sustaining and additional resisting force required in strataed ether for leverage outward to preserve the flight, *i.e.* the measure of solidity in the medium the bodies pass through; for all move whether as parts of one body as solids of this globe passing through fluids, or solids of one universe passing through apparent empty space: apparently empty only, by the refinement of the fluid, but certainly solid to the glory of the divine wisdom and the consistency of nature for blessing. Thus we learn that the impact of solid resistance feebly made by a fluid, united to the power of a flowing globe to swell by light for its more powerful enforcer of a passage,

is turned to a use, as we know is the case at first speed in a rifle ball in air, to aid the support of flight, *i.e.* the centrifugal force proper, and thus the T X of Newton was proving the power of the curve agency of the medium by impact on the flying globe's surface which must exist both to prevent straight fall, and by its sufficiency to the velocity by greater impact on the lower half of the body make the line convex instead of concave. This convex line being subject to be lost or reduced from the circle to the ellipse, or on the ellipse to be less or more flat, in proportion as the force of impact on the medium declines or increases: and when this takes place on a globe which has its substance and layers of such a character and position in the body, that the divinely created means in all matter, to preserve the perfect circle of life by draft on light, are therein organical, and kept active by the suction of the body based on, and yet above, its ratio of inertia and attraction to the centre, and from above all, for the whole mass, for withdrawal of its sufficient vital gaseous thread, (required to keep them all active and eruptive on their own centre through chemical and electric action multiplying the increase of power without adding to weight,) such body may move through endless years in proof of that Creator's power to give to organic bodies in their spheres the compounds of mere animated relations of matter—eternal life. That the compounds exist for this, we know in animals and

NOTE.—The "Military Text Book" on the Theory of the Motion of Projectiles, &c., says, that Robins, in 1742, first pointed out the ratio of effects of air as of the squares of the velocities up to 1,200 feet a second, and then subject to be trebled in consequence of the vacuum in rear of the projectile by the air rushing in at 1,344 per second. Dr. Hutton more lately decided that the ratio was somewhat higher than V^2 up to 1,500 feet per second, but never below.

man so far as *many* years require, and where the laws of motion are still more simple, as under the primal first three volumes of matter—a globe—or opaque mass in peculiarity,—its vital thread-light, and its medium, the question of the power of God by mass to do it in natural law—is at once settled by the fact, that the heavier the mass the easier it is, as the force of draft and action on the centre and new stream is increased for power and order in regulation, the rougher the board of green cloth is decided to be in the raw material—and the greater the power for surface refinement. The corpuscularity of light, and the upper ether in space is therefore demonstrated on the basis of Newton's discovery of gravitation and all the problems of the *Principia*. The one we have chosen being a key to the system. TX measures the refractory and varying wave-force of the medium against the body passing through its atoms, as solids through solids, and so the line of the motion has been called in the path of light, the refraction of light: but when we see persons want to get up in society and turn the force of others to their end, or when we see below water the wave-line of a falling stone, we know it is the resisting power of real bodies acting in the force of all the properties they have to prevent its progress; it is the jealous spirit of mass against mass, and the unwillingness to be removed of the atoms of the medium; hence it is rather the refractory spirit put forth in the whole bodily powers of the medium against the new stream which is otherwise willing to act straightly under attraction. In fact, it is the enforced bend of power to some measure of the will of its opponents. While convex, by the force of velocity through, it is of the good; when that is lost, it is concave to death. Thus what has been called the refraction of light is really its gracious and proper

bend in honour to the common element, solidity; and as it gives by Hogarth's account, and we think we may say the higher testimony of the Word of God and astronomy—the line of beauty and grace, it is rather a libel to call it the refraction, as it is only the gentle reflection of light. Thus, by a mistake in the application of the term the fact of the solidity of the working vital thread of the universe, and the medium it passes most easily through was lost sight of. Now if our *Diagram 57* be applied to measure the forces for a steam engine working round a mountain slope on a centre, or a man ascending a mountain—both having the aid of the earth's solid medium of rest with air, as one together, over and through which they move to graduate the forces of rise and fall in life and gravity, What rules at last the velocities and apses without fear of coming to a dead stop? What, but that part of the medium which is first and last felt as a co-worker with the more solid burning new masses of vital consumption, making the centrifugal force, with the air,—and as its solid density, as both injective fuel, drawn in with the fire, or caloric, and the retainer all round the body of the radiating hot vital stream, is subject to be reduced in force as the elevation goes on, because it is of a common nature as a refined solid, subject to condensation by pressure of its own atoms toward the governing centre, its force is the gradient decider for the curve of change down the slope by light solidity; and for up the slope, its renewed power of

NOTE.—If a nautical man was seeking to find the angle a ship is forced on, in a fluid medium, called “Lee-way”— $\tan X$ would be his measure, and he would think it absurd to call it the proportioner of all of either the centrifugal or centripetal force. Thus one part of nature geometrically considered, proves another part by the fact done, and although itself unseen all correct induction is bound to own it.

full sufficiency returns, when all the other laws are subject to the same rule with its own for their completeness. Its actual weight within and without then restores the power of calorific development as internal friction with the other chemicals of the body, and its actual weight, or lapse, or stillness-liability decides the retaining power of all the issues of the body for compression of force in bold relief and renewal. Hence all the Dynamical experiments of Professor Tyndall, and Count Romford's with them, hold up a candle to the philosopher to see the corpuscularity of light and ether. Heat cannot be developed by motion except it is of a *something*, or a solid moved, *i.e.*, some solid reality of God's handiwork, not some fancied mythic spirit of the dreamy mind of idealizing man; and it must be renewed for ever by God. If a bird needs a medium to sustain its weight against the centripetal forces, as well as for all other purposes of regulation in life, how could a globe do without it? The miraculous power of God our believing brother will hint. We admit its sufficiency, but not its consistency here, apart from natural law, as well as from the avowed submission to the covenant of such generations by the Mosaic summing up of the synopsis. But our sceptic opponent is in a full fix; he will accept neither one or the other. And the

NOTE.—Inductive reasoning is only reasoning by common sense on facts known. It is an old saying, "Too many cooks spoil the broth." It surely would be so for poor nature under human systems of physics, as is the case for religion. If we find a medium must exist, and does perfectly mediate all relations of time, distance, relief, and receipt between the full powers of masses in our part of the universe, is it not evident the introduction of sheer space, or distance, a centrifugally attained impulse, or any other must be a troublesome *lusus naturæ* for the planets and stars under the same first properties of gravity, *i.e.*, real weight and fall, our planet being in the common action for law.

question is whether our beloved believer does not at bottom rather doubt both God's consistency and power to make our globe fly with all others by natural forces as an organic machine under gravity, electricity, chemistry, magnetic attraction, and all conjoint properties in a refined medium of ether, so pure, as to have hitherto escaped the discovery of man. Yet this very refinement, with due immensity of measure for final fulness in mass, science declares to be the thing most suited, and what all globes on this head require. The true value of Newton's geometry will not suffer, but be only sealed at our hands under the light of the Mosaic record. By these laws we also find what is requisite to constitute a "heaven," as a true atmosphere, in distinction from vital vapours which must rise as the smoke of the furnace of any vital body. The power a steamer might be supposed to have in any state of the atmosphere, to attract, and on a circular wheel to wind round its more solid masses of escape, or the need of a created fluid volume of hydrostatic distinction within, as the boiler of water to move the solids, would not make these fluids a heaven. Why?—Because their chemical law of unity is under the simple rule of the physic of life *in* the body on its own centre rising in a graduated scale of solidity from that centre, although also under chemical peculiarity, and then merely twined around the body until they are so refined that they are claimed by the upper ether as companions in weight; and rise as of the full chemical character the lightest of the medium, to be again condensed when further from the birth-centre of attraction, as masses of one transformed genera. So, therefore, the lighter masses a very distant globe must develope in its plan of organization to keep that height, may appear to the astron-

mer's eye as a medium or atmosphere; but it is only the radiated breath of the body having no created chemical bar distinction, as a ruling superior in constant refinement fit to become a home heaven or medium in which all the variations of a new system of organisms can be worked within and under its circle. The distinction, in a true "heaven," must be a property-gift under all the properties of the elements in the universe, equal to work all the bodies living therein, as completely as the scale and beam are to prove the residuum required for any object weighed between them; and this point of distinction must become complete in chemical nature as well as weight at a given point of distance from the ruling centre all round, instead of as a thread tailing off to and from a twist by attraction only, or the independent bar of a scale does not exist free. In fact, of natural physics it is requisite, that each developed atom should be of a general, but not universal genius in essence; but to be fitted to a path among many in a circle, no two alike in the measures of each gift, but all in fitted diversity as of different places in the order of unity, even when of a similar genera in dynamic generations of law and property. The law for the definite formation by chemical power of atoms of water and air illustrate and prove this.

We will now glance at *Problem 59, Principia*. Here he virtually admits the circle in motion must be wrought by a combination, on a centre, of a variety of properties embodied, capable of working by the rule of the centre, the turn of the higher and lower apses. Inertia under attraction being the check-rule against over-force, or riot, and yet made to aid against their own peculiar advantage for rest, which rest force is, however, the greatest and oldest in any given mass extant. The need of a vertex flow of new matter is

also virtually admitted, as well as the circle dividing guide, the compacting and loosing medium.

The fluid aspects of Jupiter, and other globes of light materials as compared with the earth, (and without her true atmospheric aid to burn her own smoke,) with their great weight compared with the less gross material of the fixed stars, will assist us in conceiving how, if any organic imperfections are at work in the system since man was made, the upper clouds of gaseous fluid, called comets, are generated, and appear to so rapidly increase. The pressure of the outer medium acting on these bodies lifts them in their volumes, and then in the distance by its cooler state condenses them in such vast bodies that they form an inorganic central nucleus by attraction on the atoms, and a following tail, to be worked as threads around the great solar wheel for some ages; but as clouds of matter, owing their safety for awhile to the immensity of distance the true inhabitants of the sphere are apart; although at last, they may come in contact with the attraction of a planet in over-force of draft to the radiating safeguard of heat, or be equally in danger of being swallowed by the sun, as was once said to be seen by two astronomers at one moment of some such body.

When we consider the immensity of the universe, and justly, as a means by that measure in mass, to develope, by its whole force, motion, in its own disturbed bodies, small or great, when they are out of their equilibrium domicile for stillness, and remember, that relief, by its entire quickening under the force of its vast suction power, and the reflective retentive power of light, is obtained by that whole pressure in efficiency of breeze activity according to mass also,—that mass too, aided by all the added

energies a corporate form of such dignity is accomplished in,—such as galvanism, electricity, magnetic attraction, chemical cohesion in adding power of stability, and chemical sympathies to draw off when in solution, each and all having a ratio of equality in the mass as of one whole, but diverse in their superior lines of combination under inertia and attraction, and all these powers of overweight infallibly given by light,—instead of philosophers being troubled at the supposed oppressive force of a conjunct universe in ether of weight, they ought to see the splendour of the powers God uses for true liberty and circulation as the vital sources entire; and that thus the free initial velocity in refraction of an atom of light for the upward to its native heaven again, as described in Sir J. Herschel's recent papers in 1865 in *Good Words*, with all the more powerful movements of the solar orbital sweep in space, and all his planets around him, or of the moons and rings of Saturn, all have their efficient means found and only found therein, with the constant renewal of all properties in a vertex flood of new fiery-light matter. It is one thing to pick nature to pieces to examine her details; it is another to put the dissevered portions of the puzzling mass together, to get out a just view of the omnipotent justice in natural physics of God. The vibration caused by the mouth of a babe is thus easily decided by the pressure of all the universe as its real sounding-board, without fear of the little creature being suffocated at birth; only let God be allowed to work the universe for it, and its mother under his word, as a believer, and not as a scientific sceptic. For the pressure of attraction starts from the confines,—where then must the breeze relief force start from, but also over the surface from the right point, God's own Heaven, above all—the third

heaven of Paul over Moses' two, and then for full relief by gaining and working from the centre of all.

Newton in *Prob.* 59, 108, says—"From the above definition of a centrifugal force, it follows * that if a body revolves in a circle, the centripetal and centrifugal forces are equal: for T P is the space through which the body recedes from the centre in consequence of the perpendicular motion T Q and *.* represents the effect of the centrifugal force; also P T taken in a contrary direction represents the effect of the centripetal force, &c.,"—and then oddly adds, without perceiving the need of a just divider on the body, by its thirst-force, over the two forces perpendicular through the two centres—"Or the same conclusion may be deduced from considering that the body always continues at the same distance from the centre, and *.* through whatever space it must recede from the centre in consequence of the centrifugal force, through the same space must it approach the centre in consequence of the centripetal;" i.e., if it make a circle in perfection, (but this will never suit the fact in pure ellipse,) so that the pure law of a circle in the means working universally on globes have all temporary refractions of the line—passing away to nothing at last, it is proved the laws with the facts are of forces held for the chief founts of power in the centres of globes and work from thence for rise and fall on straight lines of intention by the first actions, which are so organized as to find an elbow floating lever in the bowels, and whole frames of each: and these, directed and divided in a medium, preserve the just relations of time and distance. For if the body got up from S to P it is by a force

* This definition referred to has been already quoted.
— "Strictly speaking the term force," &c.

absolutely against the centripetal force, so the centrifugal one cannot be the rectilinear one, and should be read for further triumph on T P extended, and never could be T Q, T P, or Q R: for had one only of two forces triumphed, it must have shortened the line, or lengthened it, and no curve be made at all. Thus, just as two men struggling for one point of reach against each other, will want to make a straight success, if one be the stronger it may be done, but no curve will need to be made; and if they both be equal, no motion or change of place to measure the forces; but if one be the stronger, and uses adjoining helps for advantage, a curve will be made, because the lesser is resisting in the same medium. Had Newton looked at globes as organic masses of ballooning matter under purer forces of chemical disturbances in weight, floating in a medium, and worked by light, his mind would have easily grasped what our present race of philosophers so slowly receive,—Motion sustained by light as new matter from fiat in God; so, otherwise, the mathematical means of this *Problem* could not be lost, as here is the mass throwing the globe out of a pure circle. We have extended the line to A to shew what the triumph of the centrifugal force must be, and how measured, to prevent confusion of what its line is, as never a true straight rectilinear. That is only obtainable by two forces, or leverage, working on two centres as one force. Organic planets then work as all other bodies, i.e., as they are forced to do by columns greater than their masses—as in the boring apparatus of the miner, with a rock for his medium of progress, or a bird in the air, the law of sufficient exterior pressure must be used, and turned on to aid as help to leverage. A planet could no more move or sustain finite motion because it is once

given against the solar constant, and thus be infinite in time-rule over attraction than a handspike over the earth at a cannon's heel. Vital supply for the centrifugal force must also come from without, whether for the belly of the miner in his child's basket at the hour of exhaustion, the bird on the field, or the globe by its lowest place in the elliptic line of annual returns, where the whole body has its hour of night for a dose at the perhelion on its stream of vital resource, and is of the universe, as one mass of solid inertia, in its most powerful innate character. Admit a medium under light to exist to mediate this for stars, and Newton's *Principia* and discovery of gravitation shine with untarnished splendour. In the third *Prob.* 60 we have further corroboration of Newton's wants to make out a clear *Principia* on forces of motion. *

He says, "2.—That if a body revolving in any curve come to an apsis, it will, after that, approach to, or recede from the centre, according as the centripetal is greater or less than the centrifugal force. For let P Q be the curve, P the apse, P A a circle described with S for the centre and S P as radius, and which falls without the curve P Q; then by constructing the figure as before, we shall have T X, to represent the centrifugal force, and P T the centripetal; but since S A is greater than S Q, P T is greater than T X; i.e., when the body approaches the centre from an apse, centripetal force is greater than

* The question here on causes and their mathematical signs, is how could bodies moving by any law of the square root from one centre only, be thrown off the pure circle to come to any apse at all? This, Newton and all the astronomers never discovered; somehow it was done, and so on they went with facts, because central gravity brings back to the apse. Space has no refractory power for an ellipse.

centrifugal, therefore conversely, &c. But if the circle P A (Fig. 61), falls within the curve, i.e., if the body recedes from the centre, T X is greater than P T, i.e., centrifugal force is greater than centripetal, &c. Or the same conclusions may be deduced from considering that since the whole motion towards the centre is the effect of the centripetal force, and the whole motion from it the effect of the centrifugal, the body must approach to, or recede from, the centre, according as the first is greater or less than the second." In this passage force by means and force by motion are kept somewhat distinct as terms, and the two forces or primal powers, centripetal and centrifugal, are acknowledged as perpendicular opponents on one line only, and not for the rectilineal line; but the oddity at least of this last passage is great, although the geometrician may form a correct idea of what is meant. For two whole motions of distinct opposition, if triumphing in succession in a dead mass in sheer space, could not even produce a zigzag perturbation, much less a beautiful and gently graduated curve. Organize the two forces in a third scale and medium, and we know both may be done, and is so in all our most powerful machines, under thermal resources for the centrifugal force, boxed up in heavy solids for their retention to office by and in air. The lines of latitude and longitude being clear in each, as ordered by these two variations of solid matter in leverage.

But we can easily see how the difficulties Newton had has enforced his theorems by the very greatness of his genius, and been a trap for his followers to this day; we can also easily understand, how they, calculating all the perturbations of planets in crossing by sheer dead weight, as of common attraction, without any idea of the strong forces of magnetic

and electric attraction on masses as such, and their circulating streams of buoyant motion, have considered the planet Mercury as heavy as a mass of lead of the same size, and the earth's belly a glorious muck of compressed mud, or even some unknown denser solid.

Both of these problems contradict each other, without the admission of a regulating medium, as a third force to make the motion on the rule of three, which is always needed for a comparison. In the diagram 61 Newton has been true to the lines of division in result under the centrifugal force, as we have added S P to P A in 59, and ought to be in each for the primal centrifugal force. Now where a whole volume is wisely divided in each part, to have superiority of properties at work for variety, and both force and relief of pressure is centralized and quickened by a thermal stream of constant exterior vertex power, the bodies must each have weight according to their relation on the centre, both as to a point of attraction for dead mass, and thermal condensation in force for all the separating activities needed. And the common medium, for the final stamp weight, needs to be the most refined in mass except light, of all, to be kept ever retentive of this power in its just ratio; and so the bodies that can rise to its utmost height, can only be those of its own last adoption, as fellow heirs of the same glory and purpose, which float off in swift atomic velocity to the surface by their being so light, and charged with all the most rapid and refined electric sympathies of nature in their material, as to justly belong to that place; and all other bodies being dependent on this scale of attainment in pure spiritualization of property under the refining and mixing of all those *of the universal problem*, must be content to rise

only to that height which their comparative weight in the diameter of the volume allows for its place, as of a bubble or balloon by inflation; or there be worked under a central organization, as relieved from all pressure, except that sure relapse of a solid on a medium, which secured the float can never be so perfect, but that the leverage of the medium is secured as an aid to motion, involving also the resistance as in our steam ships and the native argonauts in the ocean for the use of their paddles.* For weight, which is not subject to be felt as pressure, is not weight at all, and cannot without such touch be governed. The transposition of X to a place beyond the old circle shews the law of extension in the universe of its volume in solid pressure on the centre, when we admit how leverage in steady eruption over the equilibrium of a calm horizon, within the mass of any circle of solids, must be kept up, *i.e.*, by addition, as the first law to eternal arithmetical action in mass; or growth over a finite body, capable over its parts of self-proportion when under light; but P X also shews, that a moment's real triumph of centrifugal force, not dependent on pressure by solid action of a united pneumatic, or hydrostatic agency, must eject in free space the body so moved away in a straight line for ever, never to come back any more; the whole use of attraction or law of reclaim or the centripetal rule in the volume, being overcome. Now in *Lavo* 1, Newton (quoted by Keith) virtually admits the

* We see a bubble rise to the ocean level by pressure, but the ocean could not eject it, or jerk it beyond its own surface an inch, unless the air above aided in the pressure; as not only the pressure force, but the power to give the variation of spring lightness, and skin tenacity must be under the covenant rule embodied in the whole volume under gravitation for a just law.

need of a ruling medium to prevent this catastrophe respecting planets in space, or non-corpuscular atoms of ether, by centrifugal force. He says,—“Every body perseveres in its state of rest, or uniform motion in a straight line, unless it is *compelled* to change that state by *forces impressed* thereon.”* Now what force is to impress it on a planet in its ascending node, when by Newton’s own rules the restraining power which gained its superiority at the lower apsis is decreasing every mile by the square of the distance, or why the centrifugal force does not so increase in speed for ever, by the line straight across the horizon of the centre, it remains for the readers of the *Principia* who may be able to work all its mathematical judgments, as I cannot, and do not even pretend, to shew. But I have some perceptive sense of consistency to truth in the laws of forces, and can find no aid but the Mosaic one of a universal, projected-by-fiat, distinct volume of refined matter, or Heaven of substance to rule the ascent and descent, time and distance of globes on their centres, over the one universal centre it orders for all, as the left arm, carry, and heave-shoulder-power of God; where light may be said to be the right over it again. Let God be allowed to know and teach how He can use the powers of matter on the large scale, as perfectly and consistently as man does on the small, and all difficulty is over for the foundation laws—the true *Principia* of the universal Cosmos. The proud title *Principia*, must then be stripped from the uninspired writer, although

* The fact is, this theoretic idea is lost to fact as soon as ever two distinct globes or masses are made, for attraction to a full final close exists innate under the native force of every atom in each. It is good only for one mass as a solid alone in space.

he was a true Christian, seeking the glory of God, and given to the inspired narrative of pure synoptical glory on the generations in the universe, which men with much self-conceit, and but little wisdom, have so scoffed at for some years, much to their own injury, and the ruin of thousands of poor immortal souls, who mistook their crude notions for the essence of wisdom; to set them free from the hated claim of submission to the Word of God—their Bibles. The compound confusion fixed on these Problems respecting the data under calculation, as to helping a just suggestion for finding the *forces* nature needs for the motions, is made still more clear in what Newton says on *Diagram 62*.

“3.—That if a body be not at an apsis, *i.e.*, if the direction of the body's motion be oblique to the radius vector, the body's approach to, or recess from the centre, does not depend on the centripetal force being greater or less than the centrifugal; for in this case $P T = P Y + Y T = P Y + Q R$, *i.e.*, the motion directly towards the centre is made up of the motion $Q R$ in that direction arising from the action of the centripetal force, together with that part of the tangential motion represented by $P Y$ which is in the direction $P S$; hence, in consequence of this tangential motion, the body may approach the centre S even though the centrifugal force be greater than the centripetal, as is represented in the figure, and the contrary.”

Here, then, we have in fact the centrifugal and centripetal motions both thrown out altogether as to distinctness apart and as a means of finding the cause or law which orders this eccentricity of motion, as it is distinctly stated “it does not depend on the centripetal force being greater or less than the centrifugal,” yet somehow, attraction towards the

centre finds the last point the body moving at, looks very like its success, as it has lost elevation under attraction we opine. $P X$ off $P S=R Q$. Some uniting or organizing agency must be "*impressing or working*" on the body for this, of the two chief forces off their lines of distinct opposition, as to talk of the centrifugal force as most powerful or greater, when it has just before been stated it does not depend on its superior power at all, is magnificently absurd; indifference about the greater or less power of a centrifugal force over the centripetal does not generally succeed in the mechanical experiments among men. But then it will not do for them to confound the ideas of original force and the acquired force caused in a body by it; nor forget that a tangential motion is not the centrifugal force which preserves it against universal attraction from a perpendicular tumble, but the result of a real one.

Now let us illustrate this curious phenomenon of motion as it may be on the small scale.

Suppose a stout boy standing on the point of a precipice on some lofty mountain—and that is P ,—and he with the organized elbow-force of his body and arm throws a stone in the line P towards Q ,—What does he need to enable it to perform a very rapid curve? What would ever become of the skill of the Australian savage with his boomerang twirled amid a flock of ducks, to kill many, if he had no medium of solid weight to act on?—Is Nature rather dry the higher her scale of action is, or God inconsistent the nearer heaven we go? This urchin may throw his stone so, that, by the aid of such resistance the force of impact in its varying ratio, against the ratio of centripetal action, (both, when considered alone, only able to make a line under the square root, or the *inverse* ratio of the strict length of the column,

because their forces alone are all dependent on mass for the base power to work any motion, except the straight line in space by attraction to fall to greater inertia for the first law of motion) that his arm may give a speed downward involving a curve, which can only be worked by the assistance of mass turned against mass in comparative forces on the variations within on that base, and so P Q be accomplished as of a doubled force. So in fact we have here, when properly read, as to what the centrifugal force is, as a simple perpendicular *to*, not *on*, the line of the centripetal, the evidence of Sir I. Newton's problems, (and so of all the *Principia*,) that no curve can be worked in space, under the forces of the universe, unless it be of mass against mass, (the boy's arm being an organic force of unity in the two over the two primary ones,) with a force to do it greater downward than all the centripetal force, within the status of the existing first body—the stone. Where then is this overpower which forces such pressure by an arm of energy to act on the centre of the universe, that displacements, out of the equilibrium of justice, for weights against weights, of solids, such as our globes, through fluids, such as our mediums above and below, (those remaining waters all “heavens,”) are forced on with velocities, which make both the power of the internal, universal, centrifugal and centripetal forces look weak, vain, and incompetent to do the work actually done before our eyes? Where, but in the consistent, necessary, act of God, by globular organization; who, while He has to *force* this mass to do its work under the ground plan of its superior first law, over all, of inertia, added to by every atom of ever increasing matter in light,—so that the latter's grafting never alters the base-root law for

stability, unity of power, and just comparisons of all parts against each other, as of one mass on their own centre alone, compels this body to move by a vertex force,—whereby matter created, as all was from the first out of nonentity, is kept up in superior pressure in the centrifugal force, Newton says (in one place as quoted) must exist to force the line of this said curve. And thus the impact given a body, in the medium it moves in, to produce any curve, must finally rule the whole motion of the mass, and force it to work against its own rule of inertia and attraction together under desire to settle to solid opacity, in rigid lines of death. Newton gives us here a primal centrifugal and centripetal force, ignored, virtually, as to any claim for royalty in the work, and then a centrifugal force acquired or organic that does the thing.—What is it? The velocity given in planets he owns to be greater than all the existing creation can give by attraction towards the centre, or any force it can raise by its own mass, from the centre, thus our 7th of power over the force of any mass by the solidification, or the centre root-law, of its own mass, is needed; as the solid action of a mass, whose first law must be inertia, as the check power (the native master one naturally seated within) is only equal to the rule of the square in times and distance for the flat or plane of solidification, *i.e.*, the equilibrium of that horizon where the two forces of internal power, centrifugal and centripetal, must settle to stillness of their equality. The square of the distances must produce the square of the lines, and thus all settle to no force for variations of mass against mass and be silent death. This could not be left circular in form to a body working on the law of a solid at last, *as we shall see*. Thus we prove that no curve can

be made under the physical laws given the universe unless it be obtained by impact of mass, resting, working, and fermenting as mass against mass: and that no curve could remain (except such as solids may fix by chemical action) other than the settlement of fluids to a pure circle, unless the constant curve by motion has a vertex force of waters from above the heaven of heavens new from God as a solid arm of power worked by his spirit to support convexity by pushing the circle into an ellipsis. Now, as our globe performs all the changes in the angles of Newton's curves, having two solstitial and two equinoctial points in the path of a constant ellipse, and as her times are constant to an atom of force, then we have proof that this supply of natural food of the universe for her growth and healthy circulations is constantly provided by the goodness and consistency of his wisdom and love as a covenant-keeping God. Those who object to this have the onus to shew by experiment, or mathematics, how it is done otherwise. These two returns to annual points, shew the centripetal force in formative power, to give the solid axis on which latitude is measured, and that of the centrifugal, of internal gulph and vertex, free hydrostatic action in the circulating fluids moving the solids, for the longitudinal axis. And thus Newton's problems for their equality on the annual result, or law of the final circle, proves the just division of all the properties in nature are so perfectly ordered, that they do not interfere with the internal ratio of pressure as motively organized on the centre of the universe, but that all such properties act by embodiment in solids to effectuate the rule of gravity on inertia, of putting half against half, to unite in one body-swell for one line of motion, so that light, by quickening the whole mass,

under divinely ordered dispositions in the variations of solidification in the layers, ingrafts its own law of the running thread, a bruised, or crossing red-fire line, awakening friction or groaning, by superior power under heavenly right and gift of gravitation. And thus we learn that all the rightful properties of nature are co-regnant in their own peculiar thrones of relations for lines of distinct action, and are equal to move the solid mass by the rule of the cube root, over the square, while the square from the centre keeps the drag-check-right of its root over the cube; and the result is, one only *apparent* law for the force of motion by the just union of all. We shall now leave the *Principia* to the college graduates and their Professors; just hinting, that it would be well for future wranglers to be expected able, not only to work the problems, but also to understand what they are working out by them in the measurements contained, or supposed, as the Quadrilateral of Real Forces in Solids by Weights. The laws of political and moral government are beautifully embodied in type in the universe as of solid on solid, or flowing solids over fixed autocracy as power contends in God, and commands rule over and in all from Heaven above by Christ the Word. His own Heaven of infinite immaterial expanse, whence he forms all things. Seated, creative, imitative, Nebuchadnezzar-like self-will, against his rule to hold, reign, and grind down all forms around, is sealed in the universal heart, but may be made benignant by his supremacy, and in natural physics is, by its perfect submission to Him under the dry first-force of light. A crowned oligarchy reigns in the swing of the planets round the sun. Each with its desire to use its own central force as a rod of iron over its surface inferiors or followers. Aristoc-

racy appears and claims its importance in the secondary planets and surface organisms of the earth, Democracy demands its place as of the value of masses, where not an atom but has its ratio for the common voice of "all good." Nationalities in the separate cogeries of stars around their suns, under the one common Pharaoh, our Sun. While all these imitative "wills," work in obedience, as simple physics, or creatures governed by pure instincts, as given up to the will of God. "God saw that Good," by his power through Light constantly flowing through the Creator Word, *i.e.*, Christ. Comets and gasses which generate diseases among men, the result of the human will, shewing the physical disorder his gross passions work in the universe by opposition to just rules, and their final doom as non-regenerate or inorganic to light for eternity.

Beauty as Light, and Bands as Darkness, are the two staffs in and over creation by the presence of the Spirit of the sustaining thread-moving ratio-deciding Deity; whose reign is both within to the lowest depths of the hell-cauldrons of each globe, unto the utmost bounds of the east or west—on, on, for ever; bound also, now, to moral covenant.

I have observed already on the ratio of power space required to be allowed when enclosed within a sum. It is as a reverential acknowledgment of the supreme dominion of God as a Spirit over matter, in the fact of his own essential domain—immateriality. Final atoms coil up under the needed law of gravitation, and leave between them space and God. The evidence is—this growth in the mass and condensation in the mass, being two laws of necessity to a finite body, measurable within its own parts of space occupied, involves that the general law must be carried out in all first particulars. Hence, as we find,

the mass of matter which is expanded in space becomes lighter in the proportions of all, towards outer space.

Now, while we have proved that no mass of matter can stretch its own domain in space, as its superior law within is of the need for stability contractile, and having *one* for the master law, it must be content, (as it is impossible to have two as oldest and first,) that all the mass extant, shall be expanded in a just ratio by the column from God; but this to be in covenant on new formations, must, as we have seen, be by the creation of new matter as units of motive pressure; but so also they must have stretch force, or be subdivisional fractions, able to subdivide and be subdivided by the whole mass of existing units, as atoms lighter, and to be lighter, (as in arithmetic, which we find a typical measurer of all the laws,) they must hold less value, or be of less solidity. Here then we find that as the condensing force in the whole sum is one ever increasing on the unit, number one, so the life-expanding power must, Now, as that is an act of the arithmetician by the gift of his will to the last figures of the sum, so it is in the universe: the separation between the ultimate atoms in the parts on their own circles, as dots in solidity, and therefore of the spaces their curves leave over the form of the cubic straight line parallelogram, must be an act in each, at each pulse of the universe of the living and true God—omniscient and omnipresent. That is, as we proved of the act of attraction, or rather God's addition, over inertia, as its equal in ratio-law, the centrifugal act is "much more" God's act, because the greater still.* When, then, this womb-opening-

* A force may be, in itself, only the equal of another, and yet by position in law the ruler. Light rules all, only, by stratagem or tactics in materiality, working over the circle on the angle or wedge-power.

force of divinely sustained property has reached, in the stream of light, the centre, its fractional action is to divide and expand the atoms there, and this in spite of the pressure of the universe, until the Spirit of the Lord, then acting in vitalizing the whole system, by it breathes through the globe and universe in constancy of life, as having a power of upheaving globes at work by a weak point found in the ellipse to overcome the pressure.* Therefore it must be an overthrow of the pressure to all the atoms in the path outward, radiating off some of its body in the ratio of the still constant action of division, as light, through preserving the body full of pores, as valves of relief, on just covenant of place and material. Now, when the value of this fall, or suction force to the belly of all globes, and the universe as a whole of light from without, is seen, the philosopher will have another guide to all the ratios of a circle in properties by matter, and the best example of Torricelli's experiment he can study. He will find no two can be allowed equal, although their unit ratios are so in abstract law. The expression of this law is,—“That particles of fluid, in escaping from an orifice, possess the same velocity *as if* they had fallen freely in vacuo from a height equal to that of the fluid surface above the centre of the orifice, *i.e.*, it need not be really in vacuo is admitted. The rule, in fact, is as abstract as mathe-

* The student will see this if he considers the difference between a sum worked in the head, as a pure act of mind, and on a slate, to shew a child the quotient and how it is got,—In the latter case he must make his figures as visible solids, although he could do it without. So the Creation is God's slate, and Light his pencil, and all the laws must be both of the abstract matter, yet defined and visible means, to teach figures, and thus He teaches man.—*ROM. i. 20.*

matics, but the facts done by solids amid solids. Here then, as every philosopher knows how, under solid pressures on the centre, all fluids gain their level again, we see how correct the Mosaic system is to true science for the universal power of God, as used in light over darkness. We see, also, how correct the action of all law is to the abstract in matter, as though it was only in space, and the maintained law in matter as perfect in God, as his Spirit is pure to refined action. The actual and abstract fully agree, and thus it is that our mental types, arithmetic and mathematics, perfectly command over the small ideal, all the work of practical calculation for the times and distances in the magnificently sublime and real amid stars. Now, as pure space between the circles of the ultimate atoms within, is kept by the essential Spirit of God, as his full dwelling place also to the lowest cauldrons of heat in globes, it follows, that the horizontal circle of a globe, would not legally remain, if he withdrew the working thread—Light, which He uses for this state of inside room to mercy or liberty-ordered-means to work life with, and so nature being left to the remaining property of inertia under attraction, must collapse to such a form as her crushed globules, losing all their given measure of expansion in over ratio to the flat for the life throe, must receive under the death throe, like a frozen flake of snow in air. Interval liberty within being lost, (that one need for the pure circle of law, by the circle-forming act of fluidity on all atoms,) leaving no minute hollows between their finger and gentle touch. Now the pure form of the perfect solid is that square we call a cube, *i.e.*, a parallelogram entity, in which all the lines, angles, and planes are of the rule in gravity by attraction and inertia in loss of all fluid

force. But chemistry unites with inertia and attraction, as a solidifier ; and at the loss of light, the outside form of all the mass, in radiating all fluids, would, on the pure cube or solid parallelogram of its mass, crush the interior ; and other more readily solidifying masses would take forms of various facets, as we see these laws of loss in fluid action develope in crystals of mineral, so left from vital heats dying out.

Hence we gain, that neither motion or a vital curve can be obtained in matter, or be supported when obtained, unless it be by a means of covenant ability, and that must be one of constancy, as able on the rule of the solid, radiating its push-weight to preserve general circulation by vortex mouth swallow of new matter, in Torricelli experience, and then by the law of equal pressure, from the centre of equal draft to it, all is perfect for life.

Now, this ratio of expansion in matter, above the mere force of the figure as a solid on a solid, as the act of the arithmetician over all, who sets all off in place, is as a free-gift law of life in grace of his abiding presence and power dwelling in and acting in all matter. This gives the law of expansion, or space in use for liberty, over the law of expansion by sheer force, as of mass in solidification, and the act is developed to us in the sensation of heat or the property work of fire ; under a baptism of which vital property of the essential Spirit, all nature is living, as baptized for the pure "good" of *its* life, in typical testimony through physics, for its antitypal fact of glory in the soul of man, that he may rise from the moral death of mere creation, to communion of mind and heart in Jesus with God ; which must be attained to escape from the crush, heat, and death-pressure of hell. Existence, but in agony eternal.

In this Torricelli experiment, as a single vortex

universal, it is, by this use of free space between the ultimate rolling sets-off in particles of matter, that the rule of attraction as of the inverse ratio of the distance appears to have claim to be true. The abstract law misled the men of observation and trapped them into vast spaces of insupporting vacuo instead of minute ones, between the touch of ultimate globules, to lose sight of the true law of the column for matter, as God's measurer of space in justice. Yet every atom has the same weight for it be where it may; and it is a strange fact, that in a prepared medium in heaven, (which the men of science got rid of altogether) only, has the extension by this means of free space, the least apparent power so to act; even there the lower stratas are more dense by the pressure of the unchanging law of weight by distance. Otherwise, how does a pound on the surface make a full pound of additional pressure on the centre and all parts of the column between? No mass therefore loosens attraction or pressure-power in space until it is gifted for the rise, with the spirit of expansion, by the working order of God under the use of Light. Even then, but for the outward breeze spirit of life, the column and mass would be one body of a complete dead mass, and therefore full weight, or full attraction.

In gravitation, stars outside are aids to support the planets, their attraction being as their mass, regulated by a column of intervening ether as our raised and yet retained tides, are, by the moon an evidence. At the same time their immensity acting on planets in circular variations, as from points, does not hinder their constitutions being so light, and with such affinities for light, but that they are worked as organisms of such vast sweeps and nationalities in the more refined regions of the common heaven, *so far from the solar heart of all—our sun.* With

the immense column of matter between, their attraction is mediatized. Two scales swing off easily to their levels in any fluid, but with greater velocity according to its refinement and whole volume in action; so in the universe, where up and down are mere questions of comparison in weight within this scale, the constantly troubled Heaven easily swings all globes to their place and station, according to their constitution under the working driving off stream, and due level by universal weight on the minor weight—the sceptred ruler of justice for the end, and due leveller of all, under Jehovah—Light. The solar orb requires, therefore, less advantage in mass of inertia and propulsive throe of light to whirl the planets around him comparatively, to what he would but for the aid of the typical fixed principles feeding him, as stars are, and aiding his arm over his satellites in a helping Heaven. Nor does the immensity of those outer bodies interfere with his claim to be the *heart* of the universe, as the heaviest of suns in the Heaven of God; the justly called sole sun of this universe by Moses—sun or central orb.

He only requires such an intermediate approach to the greater density of his planets, as is required to make him a more commanding condenser to his own heart point of the general heaven of light and the ether, and then, while he is their complete co-partner in solar glory, he has his peculiar fitness to be head of his own peculiar system, and the centre and head also of all the general forces of the same creaturehood around, to the universal bounds, as of mass commandingly.

And again, the puzzle of astronomers about the universal centre, for which they hunted Heaven to turn out the true one—the one of their own system and glory, (like sceptics about the true Sun of the

moral centre to turn out Jesus—Head over all creaturehood—God taking it on himself,) not knowing science, except as a crude and dangerous thing. The fact being that every motive body must have its proper fulcrum, and so that the sun must move under the pointed attraction of some one particular star, and that star do the same on our sun, he being first, while the broad path of attraction in the Milky Way rules his *path*, and that the star Alcione, or some other, may have the chief claim by immensity on him, and yet the whole of her mass be so diluted in her sphere, as in no respect to interfere with his more condensed and condensing power as the fitted heart of the universe—the central point of the centrifugal and centripetal force over all. Thus, mercy may be represented by this sweet influencer of all the soft and gentle looking group, as the chief fulcrum-fixed principle on a starry royal heart of a system in God; while all the other stars shew his united perfections of justice, power, and glory in other points, as types above, ruling the path of the “Holy One,” here, making him at last the central heart of all the glory of the Father—Heart and Head over all the creaturehood extant, past, present, and to come—by right, true heir also of this universe. Thus, our sun is the condensing heart of the vital thread-light, the heaven-ruler by mass, and the nipple fountain of light for radiation, under God, of all the life and liberty-giving streams radiating off to move and relieve the pressure of all the universe. How grand and true a type of Jesus Christ! The breeze and the calm of all enjoyment, rest, and labour, in a power depending on the exact regulation of that heart, where the Torricelli vortex of draft on light from God is of such pure obedience, that, *although* in the finite solid, it is measured in all the

lines of actions to the abstract of pure spirit in the perfect of space. "Nothing hid from the heat thereof."—PSALM xix. 6.

Now, in the inanimate substance, the pure circle is impossible, we know by the need of a force given to all atoms; as while the wondrous refinement of all natural forms under the microscope shews divinely ordered beauty, each having for awhile the due of their youth, as typical for the re-quickening of God into resurrection life, yet if all the universe settled down to a solid atomic fraction, a ripple over the pure plain must exist, by the circular form needed in ultimate atoms. Hence, we never find but that friction, or the law of re-awakening to change by force, not fire, perfects the surface into a newer aspect of the plane in refinement. The rule of God, in stars, suns, and all bodies of fully developed organic order, proves eternal life was by the Word in the system—The "Good" of the first order as to mere physics, but he only willed to use it as a model for the brighter casting of the sons of God on the moral ripple also by new birth. Thus, eternal life was in Jesus throughout, as the new seed of God conceived, and the obedient One in any state, but higher in the moral personality to the Father's mind; like the sun, the centre, and yet a member of the Milky Way of life and light, as its solid breast, the heart centre to the most minute ripple of refreshing on the surface.

NOTE.—Although nature as circular in every floating atom, and therefore as rounded in degree on the surface of all parts must shew this rippled form, yet, just as God by the law of the centre enclosed by mass, has that centre as a point in space to work the rotation of the starry apses in abstract geometry, so the pure mathematical ratio of the ellipse in the form, and circle in law, by the surfaces is in his hand, and is as perfect by the same principle of final centres and surfaces on that centre, a real possession in physics by his discernment of it.

The beautiful "Good" of God's seeking in human righteousness as a divine righteousness in the God-man—the Lord from Heaven.

As we find on the surface of all natural objects radiating under chemical action, by the immediate order and arm of God, that their microscopic finish is perfect, and which under human art we can never imitate, but our surfaces under the magnifier appear sheer rags,—so we get this beautiful working of nature, under the law of strict justice by the centralized action of light, springing off in harmony and mastery over all the other forces of nature, as a part of the temple system of the universe, to represent the divine perfection God seeks in all the properties from the heart to the surface, under his regenerating Holy Spirit by the Word, who is Light, when the moral attributes were added to the qualities interwoven in the sum, as also in Christ's immortal body.* Thus, of the new life, born by the quickening of God's love from the cross of Jesus—the heart impulse and the ripple surface is perfect, of which the Apostle John says,—“It cannot sin because it is born of God,” and the old nature and its works are not imputed because Jesus, the one perfect in body, soul, and spirit, has paid the debt for it by taking death—God's penalty by law for sin.

Sir I. Newton, even in physics, is always obliged to get his rules for calculation *from* the centre to the surface. Parallax in virtual principle of

* The perfection of the ripple law in natural physick has its final testimony to the perfect work of God therein in that sentence on Jesus' person. “Thou hast the dew of thy youth,” although death was taken and passed through as a power deity acquired by taking flesh. Yet in Him was full born immortality of person, having, in himself, no native *cause* of death at work, but of life only. Hence he gave up *a real life*.

equal law springing from the centre, and becoming divergent in a pillaring power of eternal expansion above confusion of substance, although rooted to the law of straight lines in just theory. In *Prob., Prop.* 44, he says,—“Compare the velocity of a body at the extremity of the latus rectum of an ellipse with the velocity at the mean distance, *force being in the centre.*”

Whether for a star in its movements, or a Jockey's calculation on a race, the weight and forces of motion the substance can obtain for continuance is the point, and exhaustion from the heart is the rule, and as exhaustion must go on every moment, let the interior stores be what they may, (wherever gravitation is the law,) food must be supplied from a new source, or death must follow. The mathematical means of the Mosaic system is above that ever yet found at

NOTE.—So absolutely has, to this day, the idea of an encircling medium been confused, as a certain *disturber* of correct gravitation on planetary circles, that Grant says, page 32 of his “History of Physical Astronomy,”—“The doctrine of a resisting medium has always been a favourite subject of speculation with astronomers; but on no occasion has it been supported by evidence of such plausible character as in the example above cited. It is manifest, however, that more extensive indications of such a medium must be discovered before the problem of its existence can be considered as having received a definite solution. It has not affected yet to a visible extent any of the celestial bodies, and until such is found to be the case, the question relative to it must remain in abeyance.”

The example referred to is Encke's calculations for the perturbations of a comet by the attraction of Jupiter. Thus, we see the evidence for the solution of the point was placed on ground, upon which by gravitation a true medium could never be found; for instead of affecting the celestial bodies in the way he means, that is, disturbing their order under attraction, its office is to preserve the order. Else, how, even under solar heat, is the measure and density of a comet's body kept from absolute dispersion? So also of movements.

Oxford or Cambridge for the universal forces of a universe whose gravitation is admitted to be the foundation law.

A difficulty I saw recently noted in the papers on the gun trials as never explained, *i.e.*, on the variation on the curve made by projectiles of dead weight, and which at a given point sink more rapidly, will illustrate how men forget to trace the difference between the centrifugal force of necessarily the first awakener to motion, with its means of eternal constancy, and the impulse which is effected by impact in a medium. When a ball is flung through air, it moves as the forces all direct on the centre of gravity. If there be no other cause, the superior density of the medium by compression, centrewise will decide one on its own axis. In the path of the ball, at first, there rushes after it the expanded and directed centrifugal force that flung it out.

The ball in its path will awaken conflict in the medium, and currents all the way, but these are distinct from the escaped and more easily spreading fluid force, that sent it out. This escaping gas—the true centrifugal force of the motion—also meets the air, or other medium in impact, and by it, as a fluid held but lightly together, it is dispersed until it loses all its action on the ball, and escapes all upward as the calorific mass lost, and from that moment the ball is left to struggle in the medium to retain its power of motion against the earth's force of attraction alone. Thus, a pure elliptical curve cannot be obtained, or even a true part, before the settlement, but a broken one, while in the flying top, as the force of the air acts against the whole body by the rule of the squares of the column, by mass of air, on mass

NOTE.—This beautiful toy illustration of astronomic motion in a medium, may be seen at the Crystal Palace.

projected, while the rotary motion on its own axis has the aid of the medium in support as a means of time in the full operation of flight; the resistance is refractory on the distance as against the rotation on one given line; and the impact at first, being against the greater force of the new energy centrifugal away, the refractory action of the medium on the line by impact, causes the greater curve on the first side than on the second, after the force projectile is divided to a reduced return motion, which the body has power to preserve until the return to the lower apse, on the hand again, by the support given the body by the medium to retain flight against the earth's attraction.

But in this experiment, while the latter half is straighter by loss of vigour to the hand, as of the planet's loss also of thermal action, by absence from the solar quickener, so that the ellipse is true, yet the top has a constantly slower axial motion of its body, because the centrifugal force has been expended in the act of throw, and is reducible afterwards, except as by the medium resister; while in a planet, it is always exactly the same, because the draft and thermal force from the sun rules the distance all round by its previous result on the diurnal motion, thus equalized at all distances and velocities in space. The force in the top is reduced for distance by sheer impact of the medium, and thereby also the whirling motion on the axis is obtained. The impact on a planet will also by its inequality on the disc aid the diurnal motion, without which it could have no natural cause under gravitation, and so gravitation not be a natural law throughout, but a miracle be required; but by admitting Moses correct, that God made such a heaven, or firmament, and therein set the stars under flowing light, his

principles for all the work of the six days is complete as of true generations to consistent covenant, and the diurnal motion being the first act of heat in light on the body of the globe, and the position regulated by the rise and fall in a condensing medium deciding all the reliefs for the loss of the power by its effect on the radiation and time of receipt—the diurnal motion remains unchangeable by an equalized force on the axis—regulated by the change of the power in annual action over the whole retention of the body to a lapse curve, so that the chemical forces of the heated globe became so much more or less relaxed, that they find power for distance against whole attraction on the central body, so the diurnal force is only a question of ratios on its own mass on their own centre graduated to perfection by the annual variation.

We know, on the small scale, experiments are attainable, as for instance, on a billiard ball, under side and full force blows, so that double action would be ruled into one, weight ever governs the projectile advantage of the forward part and the most upright.*

Now we know that the sun is a mightier force of attraction than the earth; we know also that the earth has her most solid axis neither with its head

* That the ratio of inertia cannot be excelled by the ratio of attraction, its first commanding property, except by the supported irregularity, over all, of the lines of matter on the centre, is proved by the simple fact, that one pound in one scale and one in another, double the whole inertia, but when so equalized in line destroy all power for motion. In that case there is no centrifugal force. Yet the ratio of equality in abstract rule cannot be altered. Commanding force must be vertex, to fall as the heaviest, and then be lost as such in radiating division, requiring the new for ever. The only means to universal well-ordered circulation, and quite simple.

straight up as an arrow is ruled—taking the most forward lead in its path or downward toward the sun—but in fact thrown chestward in proof of the final law of dead weight by the light in her forces made the living power, and it is the same in line of a man's head and breast-bone over the whole body as an organic mass. If the body was merely flung, and not organic this could not be of a globe. But for this to be the case for ease of motion to the human will, or under pure mechanics, we know is unnatural, unless the heaviest actual measure of atoms in the body has the advantage of modification on the position and relation of the form to the dynamical law of the forces and the centre by the perpendicular. Thus, although the body of a globe is solidified through its poles of latitude, yet the most powerful action of matter in leverage from the solar centre must govern this lean, as of the live string by the ruling volume, greater than that of the inertial static inclining solid. This, the force of a projectile thermal stream drawn from the sun fully accounts for, but by it, as of weight in living gravitation only. The superior swell of the belly of the globe, and its superior force of impact on the line of the equinoctial, over the equatorial on the lower half, will on the same law give the constant line of straight, arrow head, projectile secondary action for the line forward, curved by attraction in the sun against medium impact, and thus the position, relation of the earth to the sun, and her lines of motion, changing or unchanged all prove the corporeality of light on her belt, and the universal medium; then the *Principia* of universal physics is made complete. The ratio will be yet further considered under Kepler's laws. But that one point is for ever settled.

The present conclusion we come to is, that the mass

of matter in combustion and flow, maybe, in the largest body—the flying globe—as it certainly is in a steam locomotive the most powerful, by being the heaviest only; and can, by all the laws of natural mechanics, only be the most powerful, by being the heaviest mass of the body; and the master-line from the main centre of the force will be the straight line from that centre, or the elliptical humming-top head-line of greatest weight reclining on the line of the spring in the force; and, therefore, the evidence is clear that the longitudinal line of the globe, of $23\frac{1}{2}$ degrees from the line of the solid axis, is the greatest in solid force of leverage of mass on mass, in flowing solids by overweight to that degree. Then this agrees for the force of light as the centrifugal force on globes, with the true reading of all the Newtonian diagrams we have been considering. And the line of heat, as the means of solid projectile superior power; on the straight line perpendicular to that of the centripetal force, shews, with the modifications developed on the other lines of motion of, and in, the planet, that each property is embedded in matter, but each has its own superior line of action and reaction on the common circle for unity in many gifts on one centre, for correct covenant law, true in all its elements to pure mechanics, mathematics, geometry, and arithmetic, as of the actions of God in and over all, working the sum of the universe onward in expansion and dignity for ever. Further also, the greater axis must be the one that leads the swing where motion is by leverage, and that is the case for the equinoctial line of change in gravity. Thus, for instance, chemical cohesion being a necessary united law in physics with gravitation to secure aggregations of atoms together, for increase of organic forces, and save the universe from being only a mass

of loose atoms in fluidity, as the first nucleus was at fiat, must have its ratio as of the full number one, like inertia, attraction, &c., equalized under them and most solidifying centres. But as it also must be under the rule somewhere of its elder—inertia; and yet only to a just ratio, its business over the centrifugal force is to bind bodies together, with most power on the dead-weight line to strengthen, so that the retentive forces of heat are reduced by radiation, or increased to the final measure of projectile overflow for motion, before such emission on the equatorial line by the boiling point; thus its aid and acquiescence is perfect in its sphere with the other properties; who, each in their turn, are profited by its power of union, and the property binds upward and onward to sharp angles as the aid to pillar and prop formation on crusts. Where a property is so ordered in arithmetic that it assumes its own path, object, and place as a just claim, and loses all out of such just line and ratio of action, then the sum of its power is a perfect aid to the beauty of the scheme, and then only. Such is the perfectness of all God's laws of living forces in matter, or things created of this universe.

It is useless for our men of science to shrink from the study of the force of light, or the need of the universal medium, as bodies both of weight and chemical property. The evidence is too strong for their puny efforts to quench the light of in this age. A primary calorific awakening stream comes, but grafting all with its nature, let Dr. Tyndall say what he will. The universe must have additions for ever. The unity of all matter under gravitation, and the admission of its solidity, however refined, as ruling in one medium the final sceptre over all motions, *may find a very simple and beautiful example, thus:*

If we have in a locomotive carriage, a lady and a child, neither of whom are philosophers, and while the "Express" is rushing on to make up lost time at its sixty miles per hour, the child is supplied with a cup and ball to play with,—the line a steady broad-gauge. Is it not certain, that the organic forces of thermal power, in the mother's body while throwing the ball, the locomotive in its course, by consumed fuel expanding and pushing as a floating solid the car on, the earth in her diurnal and her annual motion around the sun, on his vast onward flight, all are so perfectly ordered to a correct value, that the mother, or a clever child, has only to throw the ball steadily in the perpendicular, and the action of attraction of body on body, in all the intricate scollops of many lines of motion, secures that the ball may be caught on the point as easily as if the lady * sat on the solar lap with only the sun's motion and her own. The beauty and order of all properties under attraction binding it to a ratio of general government to solid inertia for a check and guide is clear enough; let only men of science be fair, just, and impartial, opening their eyes to see, and their mouths to speak in truth that others might be helped instead of sophistically blinded.

When, in the antitype of moral character, a man justly gets up in the esteem of his fellows, and rank of position, we consider his weight and attraction are greater, and not lighter, although it may be so lofty that it does not so sensibly act on those below from whence he rose, because of the effect of their

* If one universal medium did not rule the common gravity, impact, and all the motions, by its gravity on one centre, this would be sheer miracle and unnatural absurdity, and this medium cannot have originated in mere escaped fluid.

nearer suited medium; and so bodies must have weight, mass, and attraction in proportion to the distance they are to be raised from the centre, unless the distance is gained by the aid of more power in other properties which aid the simple first law of mass in part of its line of junction. But then a modification of submission to loss in some other department of equal ratios for all properties in one body or power in the solid cube must be consented to. Actually, however, the attraction on the centre is the same as the mass, only relieved from pressure by the same law of centrifugal force which raised the greater mass to its height, as active on all below. When considered alone, as of attraction, it must be of all the mass in line and diameter, as made singular in solidity by chemical cohesion, or other law of individualization, in the greater one, which decides the break through in line, or column and distance.

* When we consider the supreme value of the Mosaic record of creation generations, and its scientifically divided periods, as a synopsis, we may truly apply the words of the celebrated poet, who puts them unadvisedly, into the mouth of an Egyptian impostor.

"In these tables, "said he," are written all the knowledge of the antediluvian race, the decrees of the stars from the beginning of time, the annals of a still earlier world, and all the marvellous secrets, both of heaven and earth which would have been

But for this key,
Lost in the universal sea."—*The Epicurean*.

* This takes the place of the sensible human theorist, and just suggestion, that such a key should be divinely given. It is the supreme pleasure of the author of these Hints to be used to restore the true one to mankind in Gen. 1st explained.

If the internal action of cold solid matter in resistance against the awakened fluid mass in progression be studied, it will shew, how certainly, at the point in the centre where all the mass meets it in pressure, the position will become decisive for the relation and line of the polar or cold axis *below* the thermal one, so that refraction on the resistance of a weaker solid to a more powerful, although a summary one, must at that point cause a rule of equality in the angle of reflection and incidence to become there comparatively solidified; and the variation of advantage given light, as the calorific thread of suggestive decision, must (on the rule of time for an advantage over position, when it is used to revolve a mass of conformed matter into a globe) project the centre in advantage toward one side and one end, in an angle from the true centre of a pure sphere by such centralized refraction. Thus, solidity on the forces weight against weight must be equal to form a globe on the just ratios of organic condition, by which it will be wanted, and able to work under the same force in flight for ever. To this all the facts of astronomy agree as of the just laws of common thermal mechanics.

Now light must have some real leverage decision on a body for the turn on of the line of the axle, and the body must first be made to that form and organic connection of all the solids, as so to be

NOTE.—When we remember that Archimides settled the dispute about the gold used for the crown of Sicily, on a rule of proportions of chemically divided mass by space occupied on mass, in water, and that the same rule is the one given for the weight of all minerals, in all our class books, is it not surprising that a doubt should exist on what constitutes consistency in the law of gravity as the law by which *matter* infallibly must close in on empty space or be given up as defunct.

worked by the consumption of solids to make the whole so work through under the new thread of exterior supply. But why? The ratio of forces in pressure, in a medium, with all the body of the interior universe as an aid to the centrifugal force, and all the ratios of other properties by its relations in them all, as the most refined or luminous of fluids, is easily illustrated by supposing two cannons at the antipodes of the earth; or two balloons so placed to test the point. It is certain all the bodies in the air, all round the earth, will be atoms of unity acting with the atmospheric pressure, and that whole will decide the force of chemical cohesion the cannons' body, or the balloons' silk, with the force of powder, &c., (which safely can be used,) must have given them as the lines of escape for the ball from the solid retainer. And of what value? but as the pressure of the whole mass, in junction with the mass of the earth to its centre for the power of resistance to motion, as inertia number one in law, deciding for the actions of all the secondaries. Then the ratio pressure can obtain, for the gush-fountain action of heat, when once centralized, must be of the whole universe on its organic heart, as one in limit for the full power of the finite sum of all, by comparisons within of the variations in other scales of property and concentration. A law of true justice to test all other ratios. Thus the one by pressure, as of solid in solid, for the first law however relieved, or added to by other properties, ever demands as a means to justice in covenant law for physics, that weight or solidity must be united in action to give other properties their scale of real power on, and yet over their own squares. Motion may be defined, in the universal aspect, as "*an act of law in all matter to destroy, or deliver itself from motion, and return by*

the weight of every atom to its due equilibrium, or level state of rest; and is supported in constancy, only by the resource of a constant new weight of chemical distinction flowing to it, from God, to preserve his will of life, against this law of return to inertia, as a vertex force of constant circulation under the same law of matter." Outward attraction in the upper masses expressing a thirst of more harmony with God for life, means, and constancy of motion, the feature of vanity is consequently stamped, as Paul and Solomon say, in the system, as far as present apparent end, effort, and power develope; it is the secret eternal purpose of God in Jesus that alone gives peace and satisfaction to our spell-bound thoughts on it. In such a universe every body, globe, or insect must be created in a fit state under all the properties at work for its sphere. And one globe—heaviest of all—must become the centre of all; the superior claimant thereby to be heart-ruler in greater attraction on the thermal stream by mass, as well as all the larger bodies of the surrounding mass; and as this one sum will thus rule over the inertial ratio, and the thermal of all,—all their relative positions, motions, expansions, &c., in latitude and longitude must submit to Him under God, as the universal heart-centre; although supplied by God from outside by light through the fixed stars where the mouth-line of the throat and belly of the universe lies.

It is a necessity of the unity of all laws and properties for order in a general circle, or a body ruling by solid pressures and drafts that law is carried on by cubic forces on the base-root of the simple double cylinder multiple of force or square. Every engineer knows the value of having his machinery equal to getting his steam dry, and so keeping it; and his apparatus perfect for burning its own smoke, especially after

he has refined passengers of the first class to move with; and so, for the earth, the elemental warfare of forces required to be so reduced to a pure power of refinement before man was made; and the atmosphere, as an especial means of refining the fluids, both as a receiver, holder aloft, and condenser for restorations in rains and electricity, must be equally complete to its work for human happiness; although for mere motion, in order, on the other planets not required, and therefore no true atmosphere was needed for them beside the immensely serviceable efficient universal one. The earth has this veil *sui generis*, for she is the bride of the sun, and her veil was to be a heaven within a heaven. A type of God's free grace gift through Jesus the veil taker in the flesh, who worked out for Himself, as Redeemer of others in his blood, a heaven or spiritual regenerate circle in expanse of many ransomed ones, around the solar heaven of his own Immanuelhood, God and man in one Creaturehood, as the Great Father's own child by Mary. In the divinely given synopsis on the fourth day the key to the astronomic autonomy is perfect to mark off the great distinctive lines of discovery, as of a vast congery of globes moving on the same laws and distinctive forces the earth had been before taught to be subject to, and of which she now became the maternal secondary instead of the physical primary under God.

NOTE.—The thermal rule of light, as quickening one half of the globe against the night condensing action on the other, by radiation in overflow, and on an elliptical rotation, shews how perfect that expression of terms "Day and Night" were intended to be synoptical in aid to the action of forces and properties actually doing the work on the ingrafting law of the pure tangent over attraction, dividing the globe and universe into two cylindrical valves, ever breathing in light and ether, rising and falling on each other by variations thereon rotatory in unity.

Had astronomers worked by this key we shall prove, even further still, how fully they might have mastered their favourite pursuit.

The first of the verses on the subject (14th on the whole system) tells us God willed of the new lights that day and night should be divided over the earth by their use,—“Divide between the light and between the darkness;” (*Mar.*) i.e., be the means to decide every shadow. Now a candle lifted to see the time is one thing, and weights and fiery thermal forces to rule the work of division are superior. Yet it is only on the first respect science has hitherto looked at the solar beam, although they have partly admitted the dead-weight force of the moon, and the solar check-power on all rotation of the sun also. Yet the Word of God puts the motive force on true grounds of science for the force of what even Professor Tyndall must admit—looks very like the thermal dynamical force or stream, which may surely be called caloric, as although it has power to engraft its elementary nature on all the mass, is not the less the vital thread of matter carrying the new heat in decision over motion, *sui generis*. We do not say there is no such thing as fire, or motion, or rest, merely because wood can be turned with even stones and clay into fire, and have their rest-state made motional, and their motional state restored in wood and restful. Moses then teaches us the system of generations was still to be as before. Light, by the lanterns newly made, in the expanded general heaven was to be the constant standard for the velocity of diurnal motions, and hence the submission of all the forces to correct mechanical action under thermal dynamics was taught. So the force of the lights to be made in all the succession were presented, as for the just rule of the earth’s diurnal ratio; and as the

law for her at first was of a simple gift in changes of day and night, by the force of light on opacity, so these lanterns, to be made, must be held to have the same laws of general command on, in, and through them, for just ratios in the simple first agencies of all diurnal motions. The motive force therefore must be new over all and a solid. To prevent mistake as to the superior relations, not only as for the earth, but universally over all, it is also carefully added that this universal mass of lights, then yet to be made, should also be for signs, seasons, days and years, "*and for*," being placed between, it appears by the translation rather tautologically, lest little minds, and careless readers, should leave out any part of the purpose for which God made one star; and that their unique sole purpose was to manage these matters as God's agents in perpetuity with earth's state, it is distinctly so presented in ver. 15. The otherwise inelegant pleonasm is here submitted to in prophetic forecast on human stupidity.

Next, to divide the sections of the science into its proper phases, as now is done by astronomers under the force of fact, that is of the solar system and of the stars, but with far more perfection for a guide to the whole. The two great and peculiar forces, acting on the earth (and believe it seignor astronomer or not, yet it is so on all the universe) as the central vital holder to order, and heart-force of motion—the sun, and as the final dead weight, or balance bob of the earth, and the universe on all these motions—the moon—are differently named to shew the law.*

* Every manufactory requires to have at the finishing terminus of its perfecting parts its wash-pot, to receive a refuse, or the finish would not be refining as well as folding: so the earth has the moon, as a chemical refiner and reacting condenser, as well as an aid to her surface light for

Thus the great law of mechanics—whether of belts, wheels, or hydrostatic and pneumatic thermal means,—one Power—Light, as the lever over all—one point of chief resistance and division for all the blocks and runners in the connection,—the sun, or lever fulcrum; and the earth (terminating in her cold slow night-reflector, condenser, smoke chimney, and fluid restorer, the moon) as the one Weight in one universe is justly stated according to pure science. Facts unalterable in united machinery.

But why it may be asked are the planets not mentioned, *sui generis*, or at least with the first three for the work as we study them? Because, reader, the office they hold for the work is more one with the whole body of the stars, than it is a claimant as for our earth with the sun or moon. And so these steadiers of the system, when astronomy is correctly studied under the full laws of thermal dynamics on pressures and breeze reliefs thereby (for we shall not be frightened as a recent writer on heat has been about introducing the outer cold system beyond the planets) will be found officially although more approximately, not to materially differ, in their action for ruling her just diurnal and annual ratios on their own, from stars universally. The careful reader seeking to find the beauty of the Mosaic account as a key, will observe the words “he made” are introduced only by the translators before “the stars also.”

This unwise liberty throws the mind off one idea, the correct one, to another—that common one about this valuable aid to just attainment on the works of God in nature,—that it is only given to tell us God

man. Her effect on our gas and cloud lands must be most important. The universe has the new vortex swirl by new light from without, otherwise there would be a universal fall of salts of poison, in plethora to all globes.

made all the universe, and no other being but the one God: that might have been done without all the beauty, peculiarity and care of these six divisions and their inner partitions at all. Connect the idea—"the stars also"—with the leading one to which it is adjunct, *i.e.*, that God made the two leading lights to *rule* the day—which they could not distinctively, if not peculiarly a force for the day or life part even more than the night, (although the common dividers and forces in command of both over all,) and that the moon had a peculiar life-weight action over the earth's shades of cloud and openness for light at night, although the inferior generally to both the sun and earth—and that to this end the stars were admitted aids and rulers, but not so individually and peculiarly, and you have the true facts of one system of mass in inertia worked in variations of mechanical order and calorific and luminous refinements, such as our universe is found by all experiment and observation, when correctly collated, to be, by light flowing in unchanging annual measures from all. Where then does the first in the line get the supply?—no where? The next idea, therefore, is their location, or set place as to distances from each other to begin their work, a point of so much importance in the free start of action with such tremendous forces for good or evil, as it stood at every instant. Moses does not tell us their velocity or regularity required anything more than this place, when they were duly organized by God's creation, care, and wisdom in the making. He makes no blunder about their turning the apses by the centrifugal force of a flowing velocity from the throw of their Creator. He had already taught about light full and free, in the right place. Once set in their place—and as a chemist knows—if rightly chosen and well

compounded masses, it only required they should be in right time and place brought under the common thermal connection, and by that under the maintainer of the stoking supplies and they will "move themselves," *i.e.*, roll on their own axis, by fusee thermal dynamics—hot mass on the cold. To prevent the least excuse for mistake as to the adjunct association of all the laws and forces thus at work, the 17th, 18th, and 19th verses tell us God set the whole of these massive bodies in a common "firmament."—*The firmament.* The term firmament in the 6th verse we are taught, as our aid to what it is by the marginal rendering, is an expansion of waters, and ours one in the midst of the waters dividing the waters from each other, *i.e.*, the previously existing ones of the old heaven and earth—as a material, raised to a status of such separateness in function and condition, that whilst it works as a just adjunct to one system, submissive to light over opacity, or density, it is a divider between bodies, even when they are masses in a variety of densities, as of the common law of preparation for perpetual motion, as all motional; and so these stars were set in this one firmament comprehending all, that in common unity in it, under it, with it, and by it, the whole mass should decide on that feature of motion, which as the first great ruling motion of all, has the base-roots of time on changes of state most powerfully over the system, *i.e.*, the diurnal rotation, of and as the earth's, even before she had any well-governed and finished state of the year, managed for her by other rollers. As her condition and future prospects required, that for her proper development, the day and night, being definite in distinctions, should be open to such changes, as the tremendous forces of thermal action would make to prepare her for her sun and exterior:

superior system. Superior, as of necessity, physically because she was the object of government they were made for—morally all was centred in her as for man. And on her physics as the oldest, theirs were decided.

Here then we learn that the diurnal motion is so ruled by all the universe, that the forces governing it will govern all the other motions and divisions as to their due ratio. What then have men of science done by not knowing the value of the Mosaic key to get their lines of progress by? have we not been, and are, like crabs going into the ocean depths, walking backwards? The ratios of the annual motion have been found, but the ratios of the diurnal motion on them by forces generated on, and through the earth, and of course all globes of her common globular genera, as developing their first evidences of order and power for semi-diameters or distances from the centre—where leverage is backed up under inertia and attraction, aided by chemical cohesion—chemical antipathies—and magnetic repulsion, against weight on friction and vertex over-power, aided again by chemical disruption—chemical sympathies—magnetic attraction—have never entered the heads of astronomers as a matter of fact at all. So they have yet to be put to work to find the ratio of all diurnal motions on the semi-diameters by solid pressures on centralized heat in the body, producing by the fixation of solid organization the squares of the times and cubes of the distances, as the first law of unity in globes for their ratios of annual motion, where by the looseness of the atoms of the firmament, or expansion of mass, they move on the slip, or graduated scale of motions, and have full just power for the cubes of the distances on the squares of the times, *i.e.*, the laws of measures in a spherical body.

Be not alarmed ye members of the Christian Church, your triumph is safe on the ground of faith in the perfect accuracy of the original in the Word of God.

The creation subject ye have been so frightened about, when out of the hands of sceptics and inefficient advocates will leave no triumph for Neologians of Germany, or poor old England. Dirt will come in the path of circulation of the moral character, as well as the physical, but it only makes God's soil to develop his own plants in. The thicker the one the richer the results. He bides his time. England is still a country well favoured; and where there is most simple faith and humility to believe and bow to his word, there He will give the most honours of true glory and blessing.

In reading the Mosaic synopsis, to study its value as a key to science in its generic rendering at God's hand, care should be taken to notice every peculiarity. For instance, of Light, when it was first wanted it was simply said "Let light *be* and light was." And then God saw the light good. Now God never speaks of seeing the immaterial thing, or mere property in this synopsis—but of things made, or springing as matter from his fiat—and then to shew the principle we have referred to, in the study of ratios, says,—“and *God* divided between the light and between the darkness,”—Not that light made the division, although it was the agent of power; so the calorific stream is distinctly declared, *sui generis*, existing as of a separate genera, although for ever in such refinement of circulation as to be only, by us, separated in scientific terms. But it is not said God saw the lights of the fourth day so suddenly spring into being at the declaration of will, but after *the purpose* was declared, that God made or manufactured the lanterns, each and all. A very great

and important distinction between the idea of a constant flowing new stream, and organized bodies sustained in proper forms as once given and worked thereby. The evidence of God's flowing fiat constancy in will.

Another point which has been so long one of controversy we may here notice, that is, that the term "day" meant in every case the measure of time decided by the earth's diurnal motion, whether used for that of God or the creature; to prove which some thousands of pounds must have been spent. Tracing the use of the term through to our position as attained, will aid other points of importance.

The word is found first in the 5th verse, and here it is strictly used in the scientific sense for divisions between two opposites of force. The one of light in fullest mastery as the daylight *part* of the earth, or only one part or more (geographically) of a diurnal motion, when by geographical position, and time of the year, the reader is able to see its divisions. Thus, in the very first position it was used, the authority to say it must mean literally the same as Moses uses it for in Exodus xx. is upset, otherwise what became of the night? But for the greater *Æon* the term Day is used for some whole period, of which the division of the earth's diurnal parts only formed the third action; and thus all done before the fourth verse's record must have had so much more time.

By the absolute letter of the Word in this record, and we suppose it must have some righteous claim to decide, the term, when used about the earth itself, is never taken for the full diurnal motion except in the 14th verse, when for scientific purposes it so required, as in union with the measure of the season and year. In every other part of the Fourth Day it is

used as on the first, *i.e.*, for the separation of the two great divisions of the diurnal rotation, the other being night. Now had our objectors, but considered what a mess of it the record must make for itself under their interpretation if they had only moved their own geographical position a little, as further north, or a long way south—then the Esquimaux, or others must have found a day sometimes occupied weeks, and a night months. And surely the Bible must be given to be wisely worded so as to be true anywhere. The last place the term is used is for all the six longer Eons as one—2 Chap., 4th verse.

By their rule it must have ruined its own testimony.

But let us consider it as a synopsis shewing Light to be the moving thread, using inertia in the solid globe (when it was at first so resolved by melting) as its pivot, with the upper unchangeable ether for the second necessary resistance, to define a circular surface and preserve one—which could not be done without the “Heaven” aiding divisor, or third part of the rule of three (as otherwise pressure must have made the body below one universal volcanic emitter of accumulating heat in circular radiation on itself alone as a shattering lunar surface)—then whether we live amid the Esquimaux or in west Africa, the story of truth is equally perfect to the letter of fact at work in physics.

NOTE.—The relation of the earth's solids to the solar attraction, partakes partly of the arrow-head-law of heaviest outward by projection of centrifugal power as the heaviest is upward, while the back-lean shews it is not fully relieved of dead weight supremacy by the character of that centrifugal force in its power and nature of impulsion. Thus the amount of supremacy of dead weight within any mass is shewn, *i.e.*, by the absolute need of the force being new from *without* as a stream on one line which forces it along, and *its* ratio.

Now day and night, in this sense, is so simply divided, that the observation of the inhabitant of earth is sufficient as of her alone; and the changes are by the least scientific minds so known. For any regularity in the days, with the seasons and years, we rise to the second phase of facts and resources, and the sun and moon settle our latitudinal and longitudinal points of acquirement over the whole globe, 14th verse. But the accuracy of fact in the united forces of light in refraction for a pure time circle with days, years, seasons, and signs, as ruling with perfect unity through all these globes in one body, by one ruling firmament, has also had its confirmation, and has been read as a signed fact by the means used to the discovery of what has been called the aberration of light. A scandal in the force, in the use of a term, which Moses does not commit against the accuracy of the work of the arm of God, by that force of circulating perfection. So perfect is the synopsis, that it places in the 14th and 15th verses the terms in their pure scientific order; "for signs" as being the exterior means of observation on the longest straight-line-reach—unchangeable in value of solid pressure in spite of the constant motion of all the bodies (a fact itself sufficient to shew how certainly the laws of motion and union must be of all, as in one body in all the properties of aid to motion and position) is put first. The seasons come next, because, they vary under the whole force in its first supplies over the days and years—while days now come in, because seasons'-powers in this respect rule them on Genesis 20th law, and with them the years. A reversionary order of rule having come in with the creation of the sun and stars over the earth. What perfect beauty as a key to astronomy and all physics. Chemistry and electricity, with their full force on magnetic attraction,

as well as common gravitation, must be admitted as a great and perfect work, generated together by light through the universe. The pencil of God in finishing every drawing and colour of softness or contrast, is the beam of his eyelash as the Creator of Light. If an aberration *is* found, He must have given another the power, and it has been so used. Who can but man? for correct curviture is not aberration. The perfection, life working, and renewing laws of light in this respect have been proved to have a beautiful accuracy by the human system in Jesus.

For a long time it was a difficulty to understand how the gastric juice did not destroy the coats of the stomach; it having such concentrated force on other animal tissues of the same character: and it was supposed it was because life was in the tissues, but it was known that the action might be equal in things intruded on it not yet dead: at last it was proved that it does destroy its own bed, but that the vital use of the aliment it provided renewed this bed, as well as all the other parts of the body, without which circular action would be impossible even with

NOTE.—The French mathematicians sometime since were employed in ascertaining the power of restoration in the reactions of long cycles, in consequence of some evidence natural forces were disordered. They came to a conclusion, that it is certain in these cycles. The point that led to the research is quite of a different order, and cannot be so settled; but the results of their labour are valuable in proving the law of enlarged liberty and restraint the universe allows globes, while the long days of the full circle in slow procession on the circle of the medium goes on from eve to morn. The synopsis was complete by Moses. That too ends in a law of a day by evening under convection of light and no night above. A day whose final terminals are only correctly called day and night, cannot by any pure logic be one whose *full terminals* are evening and morning only, and no night—as if it had a night that must be one boundary name.

food. But not exactly by the supposed laws of circular reactions whereby the poor body, whether of man, a globe, or the universe is supposed to be able to feed on its own parts by its friction and deny the need of a stream of vital caloric from without in Dr. Tyndal's stile of philosophy.

What rules, as the final thread, the health and power of vitality on man, but the chemical forces of good pure water, air, &c. Which air and all must be kept in its due state of climatic value by the agency of Light, the extreme food to save gastronomy from self ruin. The universe teaches no suicidal action, in proved effort to do without meat from God by turning into a sort of globe anthropophagi, the sun; who (as the centre, our philosophers admit, must be fed) is to have his rather full and jolly rotundity kept up by swallowing stones, aerolites, and brick-bats of the upper heaven, which when they have given him their stun on the wind, and by the motion discharged, just for a minute, a litter puff of more heat, must, as all aerolites which have fallen on this earth shew, remain, like other stones, dead cold weights on his surface for the slow solution of time. Does God, when Nature asks a fish, give a serpent? or when bread, a stone? if light be needed does He give dirty solids of disrupted matter from volcanoes in the moon? even if, by the disorder which is now at work in the universe her ordure is so prolific, or that of other planets voluminous in aid. Is that a means of regularity for motion such as our planetary system developes? In the exercise of every property of nature, as well as the simple act in the form to preserve the convexity of the circle over the square root of the distance, by the 7th over-power, the new vertex force given is evident; *for it is known that if action and reaction is equal*

in rebound, motion once given within any amount of mass could have no rest return power, and would only preserve a confusion. So attraction and loosening could not do one thing different to-morrow from to-day, except as it has the power by God's act in the use of light, and hence it is, (but with some mistake in various properties) that philosophers have lately considered gravitation itself dependent on electricity; all properties are so made alive by light. Sabbath law within the system on its own circle in confession to a compound unity with inertia, or rest, as the first gift for order under God at creation, is a spring short of right in law from Sabbath rest in first and constant dependence alone on the love and omnipotence of God, by the new, from Heaven over all.

The perfection of the check-law in mere matter, by the claims of right in the mixture of properties for an abiding system of generations in perpetuity, is again seen in the absence of power for males to generate again, even when the power in degree exists, and amid great ethnic distinction of our race in several successions dying out. In proving the fact of a universal medium by the Word of God, we proceed safely and reverently, as well as the more usefully for youth. Nor is the instruction confined to the first chapter—Thus one says:

“When all the morning stars sung together,
And all the sons of God shouted for joy.”

Could this be true of any motion in the universe on the stars, if they had no vibrating cord of matter to move the chord of sound along? Be sound what it may, the continuous drum-skin of connection is required to carry it, whether the song of the robin or the ripple of water, and such a tender conveyancer *is* used in true covenant of works to carry the prayer

of an orphan child to its Maker, as a tongue, however truly he *could*, and sometimes may, in its thought do without it; the creature would be imperfect otherwise. The harmonies singing to God are truly spiritually Eolian, and perfect to the nature of the soul by his being God by and over all in the abstract rule of space within matter.

In considering over again the expression on the first Day—"And darkness was on the face of the deep" we find by our studies of nature's thirst, by attraction, giving outward desire to inertia under the disturbing circulating force of light—in which connection of fact it is used—another beauty of this wonderful verbal diagram of universal physics.

The legal impression of light as a fiery disrupting agency destroying the settled cold stillness of any mass of dead atomic figures, is, by working through in refraction and convection, variously affected, and affecting any such said mass in progressive layer and vein action, by the different properties it awakens and ingrafts in its peculiar office to open the mass, and expand it to the heart-centre where the superiority of line ends, so that the further measure of receipt the mass is capable of, can only form a commanding cauldron in that centre, and this too must have its given limit in the retentive power of the mass in all the original energies of primal natural quality. As without any pressure and retentive power, as gifts at creation, it could never be held to gain the centre at all, and unless such power has its equal ratio of limit for the mass, however capable of circular and elliptical distinctions, no power or just ratio for the breath in radiation would exist by circulation. This simple law of hold by inertial pressure must also decide the ratios of chemical solidification, &c. Now all experiments by heat, on

any mass of matter, prove this to be true of things as they work under God, as we always find the reflection and refraction of heat is required to be graduated in mass over its power to melt. What then was the effect of this law of vitality in the rational, physical, aspect of law? which Nature, as all then inanimate and unreasoning, could not express for herself.

It must have been this, that like a steam apparatus, awakened and vivified with a force of life and motion, the Divine engineers saw a point arrive when the first vital turn in motion should be given to avoid bursting. And so the diurnal motion was given for day and night. But if this was the seen need, for the arm of God after light flowed—as all rightful properties of atoms required to pre-exist in the mass, on which light was to operate, consistent testimony is given that the original vital power for such use did exist on the mass at first projection—although in native cold inertia, and settled superior opacity for the globes' nucleus, as a mass peculiarly fitted by its first state for the formation of a wheel, or circle of definite congregational life, while the atoms of “the heaven” were created fit for their work of remaining under all the variations of other masses unchanged in their law of separate junction at that level for the rapid stamp of finish on the earth's surface, chemically distinct. Thus what men of science fancy is their discovery, Moses taught of the entire mass of the atoms of the universe, *i.e.*, that they were all imbued with the true original, but latent properties, and that their variation of power is simply the question of the variation of chemically divisional and secondary office, as solids on solids with inlaid properties in Jehovah's use and gift. Latent fitness for light in its office was in the

first nucleus however dark, *i.e.*, the atoms of the mass had a felt void and were fit for the action of the new stream which was itself that of proper ingraft; and hence, if we admit all matter has latent light, it must be admitted to latent gravity when the vital stream is poured in. For light is of lightness in body as weight called to proper ratios of rise and fall. But in fact the law of atoms "to be" as a created mass held in the power of the same God who gave them existence does not involve any light sustainer existed merely because there was a power of being united and subdued under the force of the stream, any more than there is any life in a sum, only because the figures are properly placed for one and are fit. It is the action of working the sum which brings the *properties* of *arithmetic* into being, and that in the order they are awakened into use by making the figures of right properties in right places. Now, as inertia on its own centre is the law of density and solidity, and as any created mass, small or great, must have some density with diameter, or radius from the centre,—it was right that the full law of life within should be expressed, as well as that of inertia; and the law of diameter as either painful, dangerous, or pleasant pressure on the centre of any fluid mass, which by such property in larger irregularity has the liability to settle, act chemically, and solidify, so as to cease to be fluid;—thus, as the first nucleus for a globe required to be a mass laid in a fit state for the work of bringing it into organization—the dangerous gasp of collapse was legally before it by the just gift of its rightful properties; and this attraction would involve, ever, by unrelieved draft on the upper ether. For instance, when a bird is hatched, interior support in proper food leads to the vital call for more food, and the same is true when it is first

generated in the shell; it was equally true of the egg state, which, however shielded from pressure from without by the shell must, by gaseous pressure of the fluids on their own centre, destroy in a short time the true state fit for the vital organizing business of light or heat, both of which must go on through a right line of mouth, with ether for life. Precisely so, then, as God by his consistent power enables the spirit of life in a bird at hatching to express this state on the surface cry and gasp of the body, and the need of putting an egg under hatching heat may be seen at a crisis passing to ruin by the surface state, so the living and true God expresses this need of the nucleus state within that yoke, a globe, under the irregular pressure its atoms required to be projected into, as his righteous declaration of all truth in covenant creation-claim from the very first; and his indwelling, divine, proper sympathy with all his creatures by the expression—"And the Spirit of God brooded on the face or surface of the waters" which expression of the "Word Creator" on, as in the heaven of ether, in silent patient faith and hope, is immediately answered by the word from the Father's bosom going forth at the command "Let Light be" and the need of the state of first creation in matter under the law of pressure, unsatisfied alone, is met by the supply declared—"And Light was." Just as the brooding of a hen develops and supplies new matter as the caloric of both from her own person. Thus, this sublime expression of eternal covenant-keeping, covenant-associating righteousness in the Creator, is not only scientifically synoptical on the progress of property introductions into nature—her impregnation of a state full and lawful for the nucleus—and owing, as preparatory, the need of light for a *state* so created, in dependance on God for means

of support in a path of growth, instead of the philosopher's stunt of ideal sufficiency from the first, without the blessed and more glorious hope of expansion in the onward and upward of life, by additions of like, but it also is morally synoptical to teach God from the beginning has not only made nature dependent on Him, but that his own heart's desire is identified with the success in life development on all the parts in their proper sphere of the "Good" by more and more for ever of the milk of light. It is God's own thirst in nature expressed by nature's voice from the surface deeps of matter. This, my reader is the true and beautiful purpose of this expression which has been twisted and twirled into so many meanings—among others a justification for believing that this world's present state, as fitted for the cross of Jesus, begun at that moment only, and that God worked up some old rotten ruin of a world for that purpose out of what men call chaos—which however had its only existence in that chaotic mass or compound of false light, inertia and darkness, in human ignorance and unbelief; the broodings of their brain as it involves, that after all, even in the six days, however long or short—all things of this creation were not made; and that some vast period, as the true "Beginning" involved Moses all wrong in the 20th of Exodus about it, as well as in not making such a division for that *second* day in Genesis. Moses, however, is consistent to his various statements, for without saying how long the greater days were, or how long the daylight parts of the earth's diurnal motions were, which latter we know to vary over the earth, he plainly declares—for in six days the Lord made (not merely changed the state and position of) heaven and earth—the sea and all that in them; now this point, ending with the period

of accumulation by added masses of miraculous expansions—but not to all things as changed, or made under change since—settles the literal point by the expression “All that in them”—observe, not “*is*,” the word is plainly improper, as it would include to Moses’ day also—but the present verb is an interpolation of the translators’; it should be all that in them was then extant, at the time of God’s rest—or rather perhaps simply, and all in them. The only possible meaning to be consistent and true being from the “Beginning” to God’s rest-time as of a work distinct from the constant requisite of guiding and support in constancy to law for generation since.

One inspired writer, contemplating the glorious covenant spirit of the universal system, as an agent of sweet harmonies of infinite variety in note to a just scale under one master of the orchestra says:

“Praise Him all ye stars of light.”

In this law of covenant just relation under God as the only true cause, agent, and receiver of all its glory we bind nature to no scale of mere materialism, while we demand for it, as a creation, or thing, that all its immaterial properties are motives of a substance; for the scope of all their actions, peculiar to natural physics, are not only themselves proved impossible as a system of correct mechanics, chemistry, sight, or any other power of its known works, without the immediate over-command of God, as the Father working also by the Word within; but also, by the corpuscular association of man as the ruling delegate and covenant sovereign, we find that all the most subtle forces of spiritual gift may be so interwoven, that the breath of the most secret petition to God, or the faith which wrought the miracles of *old*, may be completely spiritual in their derivation

from God's promises, and yet he as fully correct to their definite share of property-power, by the tongue and brain they are worked by, and the feelings and measure of faith attained they are associated with, as any mere physical law of weight. And thus, by the light of this fourth day, in the certain association of the most remote star with the diurnal motion, which rules human wants and feelings, we find how truly God in his Almightyness needs only his own agents, and while pledged to covenant in immutable truth for all the sequences, which we call cause and effect in physics, is quite free to all his ends as the High Lord over each tenant for his glory in Christ and the Church. How beautifully then do the declarations of Moses on astronomic law (in Gen. i. 17) aid our youth in the pure study of nature, and assist in teaching the two great characteristics of God's covenant—faithfulness, and free sovereignty. How different the triumphs of these sacred writers; how sweet their inward peace of conscience, to those of the most accepted modern sceptics to whom nature in all her glory of repose is but an idol of common heathendom.

How pitiable is such a faith as the following from the sceptic's favourite poet:—

I see the deep's untrampled floor,
 With green and purple sea-weed strewn;
 I see the waves upon the shore
Like light dissolved in star showers strewn.
 I sit upon the sands alone;
 The lightening of the noon-tide ocean
 Is flashing round me, and a tone
 Arises from its measured motion;
 How sweet! did any heart now share in my emotion.
 Alas! I have nor hope nor health,
 Nor peace within, nor calm around:
 Nor that content surpassing wealth
The sage in meditation found,

And walk'd with inward glory crowned;
 Nor fame, nor power, nor love, nor leisure;
 Others I see whom these surround;
 Smiling they live and call life pleasure:
 To me that cup has been dealt in another measure.

How came this man without one to share his emotion? What a contrast to a tried one who could always say, let man treat him as he would,—“And yet the Father is with me.” Or even Habakkuk’s rest in his completeness in Christ, iii. ch. 17 v. The one rent God from his own heart to gain false pity. The others were too faithful to truth to have any other friend in every crisis, as steadfast all though to grace and truth. Who wants Shelly’s faith and its results for the youth of England and the world? Who that puffs such men for their mere talent can be called a patriot? truly might he say—

“for I am one
 Whom men love not; and yet regret—
 Unlike this day, which when the sun
 Shall in its stainless glory set—
 Will linger, though enjoyed, like joy in memory set.”

What a contrast in one possessed of every luxury of this life, and Job, the man of redemption’s hope, when bereft of all below except life in his Redeemer. In the wonderful beauty of the true covenant gift and submission of all material substance, as filling the universal vessel of time-law under God, in arithmetical abstract definitions we see the harmony of thought, observation, and instruction in that more commanding mind, which shewed the value of the lilies as proofs that obedience to God’s laws must provide sufficient clothing however truly a part of the inwrought covenant were the properties of industry and economy; and the perfect safety of life, *under the same laws to the written promises of God*

from those which decided naturally, and yet in God's pure sovereignty, the fall of a sparrow to its death sod.

Chemistry, therefore, by the action of electricity, generated under the stream of light is the superior function of physics on circulation; inertia and attraction being its forces for the solid scale. Burning gas in corpuscular fractions, as of the generous and humbly associating new and old sympathies in atoms of light and ether, the means of rise and velocity: and these being the laws of material conduction to the human body, then work on the brain its memorial changes and impressions which again act and react on the nerves and blood by the common sympathies as taught from the covenant of the cross in revelation. Thus the changes and laws of order, power, and progress, phrenology declares to be those of a true science, and found perfectly consistent to the quick electric forces of universal corpuscular weight of all atoms, as relieved from oppressive pressure by the flow from the centre under radiation, by an equalized power to the pressure (because, as of the universe, the both are the produce by the same ratios) with gravitation, are all of the good in the solid. But if, as has been erroneously suggested, but quite apart from, and opposed to the evident bearing of the whole light of revelation, this universe has other globes than our maternal sphere (to which and for which, all other parts were added) peopled with responsible creatures, as moral agents, then, like two dogs, or a pack chained together for a hunt, each must help to ruin the other by their contradictions to the laws of true fellowship in right, as sinners against safety, while they could have no just moral over each other, or common hinderance in justice to the inheritance of the certain ruin; no mutual bond of control in morals as also required. The Scriptures, indeed, speak of other

creatures as angels, and other habitations, but of the one, as a body, whose state was sealed to eternity before man's began, and their introduction as God's servants for good or evil is clearly made above the physical of this universe, while acting faithfully on it by the mind under God, and therefore not interfering with its necessary due isolation on law, truth, and grace providentially.

The evident object of Paul in quoting the 8th Psalm in Heb. 2, is to shew, that to pervert a divine testimony of elective purpose in love from God to any other, as of a common, or not sovereign purpose, is to produce a depreciatory feeling towards that peculiar act of love. And no man who has made such a distinction for a son is ever pleased, under some special profession of shewing a larger philanthropy, when his end is made common beyond the unit he desires to draw thereby in election nearer his heart. The community of song in the 5th chap. of Revelation is perfectly consistent with this importance of this universe being the appointed field as in a scale of operative sufficiency for man over all. Nor is any thing gained by peopling the planets as to numbers, for as it is plain the finite cannot fill the infinite, so there must be a space in God of "room," for new constitutions by the innumerable demands of his glory, as creator, without burdening one universe with two half connected systems of responsibility on the same law of attraction in the atoms of the body* where the results of evil were required finally

* Let us suppose the Creator wanted systems of responsible creatures as innumerable as the sands on the sea shore and all the stars put together, it would be needless to God to unite them with this universe, which for the moral trial on physical fruits under the cross needs to be isolated. — "*Rehoboth*."

to settle in law and judgment by death. Divine ethics are only taught consistently in the Word of God; the narrow minded are those who want inconsistent plethora to help God to fulfil his glory; they have no true idea of his infinity. The grandeur of this whole universe, however much it may stretch over our horizon and poles beyond the discoveries of Herschell's astral explorations, was necessarily created as a testimony of God's elective love for the first struggles and demonstrations of the Word, in revelation, on the human conscience. It is not too vast for God to do. The electric refinements of activity, observation and experience are acquainted with, demanded its most refined fractional division of matter for its scale of trial as fruits on the body; and the glory of the vision in masses, with the expansion of its depths to science demanded it also for a full impression on the human heart and mind, and must be of the same need and value over man's proper education had not even angels and cherubim been existing. It was all to advertise God as omnipotent in love. If all is wanted for man why should not all have been created for him?

CHAPTER X.

Weighing the Earth and Planetary system.

THE subject of this chapter would not have entered this work, as it is more immediately the business of the practical astronomer than mine, but that an objection has appeared in print to my general theory on Light, and which a friend drew my attention to.

Of course I am called on to meet any apparently just objections, founded on experiment, which arise in the course of my expositions on science, and which may appear to have force, if only from the nature of the authority, and the general influence of the objectors. I am not aware that any other person has ever suggested that the interior of the earth is reached by light to the centre; indeed I am persuaded no published work of a date earlier than the period, when the first parts of mine appeared, except the Bible, had even the least suggestion that material light was the centrifugal power by which globes are whirled around their axis, and through space; but on the contrary, it had by considerable authority, been held proved, not even God's prime mover of smaller bodies on surface aspects, although needed for climate aids over this earth; and only as an acknowledged new stream from outside the universe *is the centrifugal force discovered*. Many have supposed her a body with only a crust of solids

floating on a volume of calorific resources sustained by interior combustion; hence, had the term used in the passage I quote, been heat instead of light, I might have supposed some other person's theory was alluded to, but as the point in regard to the earth's weight and dispositions of matter would be the same, I should still have thought it requisite to take up the subject, it being desirable for all our future progress to be assured on the point, how the original law of gravitation will admit of the theory. I must therefore trust to the magnanimity of the celebrated experimentalists connected with the report, that they will consider my remarks on the basis of the general good and liberty on science.

In the June number of the *Leisure Hour*, 1862, is a paper on the above subject, by Edwin Dunkin Esq., F.R.A.S., superintendent of the observing party who made experiments in the Harton Coal Pit with the Pendulum. The Astronomer Royal and several other eminent men being the associates.*

It will be evident, therefore, that if they have, by such experiments openly decided against my theory, or of any other person's on Light's generativeness, that unless I can prove them wrong in their own basis, I have but little reason to expect my views will find way, however powerfully they may appear to be supported by science, as otherwise known. At least, unexplained apparent contradictions in experimental science can only make the original thread leading to

NOTE.—In a lecture delivered at St. Ives, Cornwall, Professor Hunt taught the theory that electricity is generated by the light of the sun, and passes on and through the earth; that being about two years after the first parts of this work were published and sent to him.

* The Astronomer Royal, was, I apprehend, the scientific leader for decisions, although Mr. Dunkin had the superintending management.

fundamental laws the more tangled and puzzling. To them, as men seeking, and triumphing only in, the progress of truth, I appeal, as well as to all men of science, for a claim to appear in print with my evidence, and that their experiments, so far from being against me, are, when correctly collated, on my side. My comment not being invidious.

I first quote this paragraph. "So great an uncertainty has been felt with regard to the internal constitution of our globe, that an eminent philosopher of the present century has actually ventured an opinion that the earth must be a hollow sphere, with a thin crust, or shell, the inside filled with light. It appears, however, much more rational to consider that, as the inner parts are pressed together by the external weight, the interior is more dense than the rocks near the surface. To discover the average, or mean density of the whole of this matter, has been the object of several important experimentalists."

Whether any other is, or not, referred to here than myself is of no importance, the expression "eminent" may be held unsuited to any claim of mine. My struggle has been against too many difficulties to expect such attainment, and almost without the least sympathy, and with great and certain loss in the expenses;* but, as throughout this work, the above reference is of views the same as I maintain herein, I have to answer it. My view has been that globes can only fly constantly through space, and turn the lower apsis against the simple whole force of gravitation in the sun and planet, by being regularly organic, and supported as such organisms in a ruling medium by constant supplies of vital solid force from without, as the

* By a fire at the then publishers I lost the most of the first parts, quite uncompensated, yet in God's service I must go on abiding his corrections on time, &c.

first divider in space by its chemical energy. The theory of superior condensations in the bodily parts is fully owned by me, when consistent with this superior certainty of common attraction of masses for each other. The axis through the centre, as a heavy body made by pressure, with the ribs that support the continents, have been so described. But this writer does not see that it is gravitation as a law of pressure his own theories are opposed to, as, how, so, can that law be made truth throughout the universe, with globes flying in refined ether, much more if in sheer space, at all. Is it not even with the aid of a known and felt sustaining medium—our atmosphere, certain, that gravitation will not admit of a bird flying in constancy except as an organic body supported in life? Clods can do it nowhere—in vacuo, or mediatised. Why do more rapid *aerolites* fall to the earth at all on such ground? As to men of science being governed by crude views of what *appears* most rational, we can only say, that the Deity's works, as well as doctrines, are all perfectly rational, and yet are constantly objected to by men, because they have been imperfectly read on the original principles of justice on which all are founded by Him. Hence it is said—"My thoughts are not as your thoughts and my ways as your ways saith the Lord."

If in nature we be governed thus, by looking with one-sided views at great fundamental laws, as the property of attraction by weight on centres acts the same in all volumes, that, in the bullock, or in man, must be expected to be so associated. Yet we do not believe gravitation is not the foundation law of the scale of the system for health and motion because we do not find all animal greatest solids are central, or *without centralized caloric* for their centrifugal force

over infallible surrounding pressure by attraction. Now we know that the largest volume of the earth's fluids are, as air and water, exterior, but in proportion by weight, and not measure, with the upper solids, according to depths and rise, on the same rules; but if the above objection be substantial all the heaviest ought to be on the foundation gradient, according to the exact law of weights, for the inorganic, *i.e.*, all the heaviest, without exception, central. Its not being so in one case shews there must be a new lifting or leverage force at work, triumphant as a light agent over the first property of gravitation for its success by circulation to a point, *i.e.*, a pneumatic agency and scale. If in one so it must be for all. Their idea ignores the value of all other properties. Sufficient proofs exist how far the earth's physics are ordered only by the law of attraction in masses, in that large hollows, filled only by gasses, and soft veins pressed on by immensely hard and heavy backs exist and at one time increased innumerable below the surface, as far as man has penetrated, and granites get softer the deeper they mine—the heat always increasing in volume.

The fact is, although the magnificent mind of Newton discovered a first tributary law of bondage and union in nature, his not knowing its associate and overruling forces, led him to ascribe so many of their works to it, that he constantly upset its true ascriptions, and other philosophers have fallen into his wake.

Thus the sum and amount of the experiments in the coal pit brought the experimentalists to this conclusion, that as the free pendulums vibrated more rapidly below the surface than those above, that the attraction by greater density of the earth's centre was the cause, and so, that the fact of the greater

density was proved, and then that there was no proof the earth was a body quickened from the heart as an organic engine, and like all such engines, had the vital force most powerfully condensed, but active and fluid in the centre, or live heart. Before I go further, I therefore premise, that the beauty of the experiments, and excellency of the arrangements, have my unqualified admiration. Nor do I wish a word in this work should be supposed as directed against the religious views of these gentlemen or others who I need to name. For although I have began it principally to overthrow the objections of the sceptical enemies of the Bible, who have tried to use science to that unhallowed course, which has made geology and almost all science a bugbear to the Christian mind, yet it is necessary I should also clear my path from the simply scientific objections of those gentlemen, who may be, and I trust are perfectly orthodox in their spiritual opinions and faith.*

The following passage provides my basis for objection.

"In briefly explaining the method of observation carried on at the mine, it is proper to state here, that the object of this paper is not to enter into the theoretical elucidation of this important problem, nor into any explanation respecting the actual force of gravity acting on a pendulum when in a state of vibration, further than to say, that the result required from these experiments in the amount of the variation in the gravitational force at the top and bottom of

* My oft-repeated testimony to the glory of divine goodness and power that the 1st of Gen. is a miraculously perfect synopsis of all science, keeps me to this course, as far as I am equal to it, against all mere scientific assumptions affecting it.

the mine, and to assume that the increase of force at the bottom is owing to the greater density of the earth in the interior than at the surface. When a pendulum is drawn sideways by the hand, it will, as soon as it is released, return to its vertical position on the other side. The force which makes this return is the force of gravity, or the attraction of the earth pulling the bob downwards. Thus at each vibration the gravitational force is exercised, until, from the density of the air and other causes, the pendulum, is suspended in such a manner that the friction may be avoided, as much as possible."

Here, then, we have our subject placed before us in its simple scientific base, which, however, is done by begging the main question, and if that be proved wrong, we do not need to know more of the mysteries of our astronomers' theories and elucidations. Now, I maintain, and shall prove by diagram, that by the well known laws of attraction in matter, *i.e.*, according to mass in one line, that the gravitational force of all bodies must be the greatest, and so affect the impulse of fall on the pendulum bob, at the surface, be the mass below more solid or not; and, therefore,

NOTE.—As a matter of courtesy I forwarded a paper on this subject to the Editor of the *Leisure Hour*, but it was returned on the plea of the unpopularity of the topic. A Lecture was also delivered at two or three places near my residence, and I forwarded it to Mr. H. Pitman, who had published two of mine on associated topics before. His Northern difficulties, however, by the trade depression from the American war, hindered its appearance, so that I am obliged to take the especial expense of embodying it into this work, as, whether the British mind is, or not, too low in desire for the attainment of truth in the grandest features of natural physics under God, there may be some who will appreciate the labour. The certain loss by such labours to me, are just as all others have experienced in earlier days, on these topics.

that while there is no proof from the experiments that the earth's centre is more dense than the crust, that even if it could by other means be proved so to be bedded, yet it would not affect the pendulums in the way supposed. Then, as the increase of motion was found to exist, in the free pendulum below, and a cause must exist, it must be a different one from that supposed by the astronomers. For the astronomers have left the true law of increase of mass in line, for the old error of the supposed force of it, with the mass in line decreased, by a part being nearer and proportionately most dense. A law they themselves never supposed to exist when they consider the force gravitational of two stones or two planets in conjunction, acting on a third, but simply whether the two or more masses be in a line direct, and what their whole force by line is by immensity,* through aggregation of atoms in one unity only, ruling the force of attraction by line. The examination of the subject will aid to establish the important correction for general knowledge, that the attraction of matter is not, nor could be, regulated by the inverse ratio of sheer distance at all, except apparently as measure in a space is filled with peculiarly suitable matter, gently relieved and graduated by caloric to that law, and so the most refined medium affects, in extenso, the line of superior action horizontally, and over, perpendicularly, as any more solid mass. The beauti-

* The whole idea amounts to a supposition that if we could cut a globe in two parts and annihilate one half, that then the gravitational increase on another would be as great in the half as in the whole, only get near enough to the old central parts. If so, how are weight, attraction, and mass, the same units in law? Has the weight of half increased over the whole in an orange because we are nearer the pips? Children would scarcely accept the pips as the centre of attraction by weight.

ful aid of the vast ethereal medium, as not only a raising, but also a sustaining body by its radius of rising horizontal attraction to the bounds of the universe will then be before the student's mind, to aid him in grasping the fact of such bodies, as the planets being organic flying machines. For attraction above aids to lift any body; as attraction below aids to settle toward the native bed, so long as the universal medium is exterior to the whole of the floating bodies in sufficient immensity as to make it also, by pressure, a pumping hydrodynamic body, acting with the force of light as of a fluid column, aided in gaining the true level by the ethereal force of all the body of it.

Surely I may plead without presumption, it is at least high time that our men of first standing in science, should understand how to keep to one simple law for gravitation by attraction. Philosophers, whose ample means command the opportunity to lecture before Metropolitan and Royal Societies, and find a door for publication in any journal, have many advantages over me; but they must not suppose they have a monopoly of all knowledge, or accuracy in science or theology. This, God divides as He will, and they must stand the test of analysis right out.

Let the pupil draw several irregular forms on a slate, apart from each other, to represent masses of solid matter in empty space. The law of nature, discovered by Sir I. Newton, of simple attraction in all for each other will then be supposed as drawing them together in straight lines in the common centre which the variations of measure, by variations in the size of each, make, as of mass; but at the same time, unless they all have *the intervening spaces filled with matter of a general*

more refined density, there would be no gravitational means to measure or qualify the variations of each in speed by mass.* That too must, to be consistent to all experiment, be supposed present. The action of the medium will, however, regulate the action by the circumference of its body, resisting each body, and so give a time-law, or property, to decide the density or weight, of each in the same by speed on distance. The only property space then has with simple attraction is to find a field and point of mutual meeting for masses let loose to act on each other, *i.e.*, the point of the future centre of gravity owned between them. The medium cannot disturb that, but times it if it is a good one, *i.e.*, if it is entirely decided in being equalized in all its parts on the same centre as to chemical operative density and steadiness. Even then mass decides the one centre remaining. Time we know is made out perfectly, as a rule of comparison for parts of a machine by the aid of a medium on each other and only so; as well as the means to calculate distances. Deny this for all the universe, and the same law for gravitation is swept away, as of one consistent property for a clock; for we know it is so in and over our earth by the air on mechanics. This was a truth which Galileo proved by his experiments from the tower of Pisa with falling balls of the same material, but distinct measures. It shewed God's scale of equality and distinction for the first law of physics to be absolute, as one of equal forces by equal conditions;

* This is the law of beauty and typical courtesy in stars whereby they are constrained to bow to each other as they pass in their courses; being prevented from too full a force of the centripetal action by the mutual fragrant emission of light and heat to each other for reaction with attained motion in a resisting medium.

or equal variations in two parts if one be over the other in another respect, so as to find unequal power to force way through an equal medium, as displacements. Any ball having the greater circumference, and also to make a greater removal of the atoms of the medium had, to do it in the same time and distance, need of a greater mass of atoms, or the same measure of proportion for condensation, *i.e.*, be of the same material as the other lesser ball. False conclusions have been drawn from this experiment, and the truly important ones not seen. Had the material being alike or different in the balls, in vacuo, we know time, mass, and distance would have still been utter undefinable. When our masses completely touch under the common law, if solids, they will make a figure like the exterior surfaces of each; if fluid, form a general circle. Let a straight line be drawn through the centre of gravity with its perpendicular, and at once, by the invariability of the law of attraction, these lines will shew the extreme radii of attraction on the central atoms from those left without, so as to relieve the force of pressure, and aid any future means of lift. This simple infallible fact in Newton's discovery, has been entirely neglected by the illustrious astronomers. But it shews that the utmost force of attraction in the body, on one line, can only further act *en masse*, when a new body, or number of atoms, are placed over the surface altogether. This important law we shall more carefully study with a diagram. It will throw much light on the simplicity of the Creator's means of lift and sweep from and around the universal centre, and shew that light, as a new beam of force from without, is the only one subject to the full force of universal draft for leverage; without it the *exact* external atoms on the wave upper line of the

universal medium can do nothing for motion but reduction ; they feel it only on one line, but as relieved and discharged by the breeze of rise from the centre. Of this medium, if we suppose it to be of atoms so equal in all properties as so many number ones are in figures, then, as they will only be differently affected in the united figure by their fluid submission to position or pressure, so the actual variation in them will be the result of the act of the generic root of gravitation, or force in the solid ; just as many units one are necessarily affected in value on a line with each other by the relative positions, sideways and above, together, and in connection with other larger figures. But to throw off from a line of units the heavier figure, they must have combined support in the law of their mass in layers of a column, or horizontally, and then command in fluids the rule of a circle by simple unit "Expansion." Hence, after the sun and moon were attached to the earth, as her primaries for the requisite just aid of action and reaction by leverage of three in one full corporateness, (and as the Mosaic statement teaches) these two globes required to be attached at one time mechanically ; then, the addition of Venus and Mercury inside the scale of the earth's flight gave additional security for steady guidance, with the exterior attractive variations of the major planets. But those within, being separate from the sun, and yet always, as inside for gravitational restraint downward, aiding the force of his body in weight more than in the force of light, with the constant rotation of their orbits altering this action through the year in variety of effects, made her bend more easily to his command in superior hold for steadiness by their separate action in mass, being distinct from that of the sun, *i.e.*, if all be considered, with the earth, organic under light.

J

and radiators of it to her aid, but the two planets more feebly radiators of light than the solar stream for energy, chemically, as more diluted by them, made this gentle variation give her great readiness in pendulousness of the scale; while a full support against it was secured, to increase the pendulous readiness of the vibration in her, by the immense advantage in size, circle, and distance of the outer planets and all the stars; that being sometimes on the same line with the sun's as a holder, and sometimes in opposition, of centrifugal lift. Thus, the Pendulum we are studying is the earth, and it is evidently requisite that to understand the perfect beauty of the earth's ordered position among all the stars, the experiments we comment on should be completely mastered. The very beauty of instrumental experiments is only a mischief if there be not power to read them off fairly and fully for the antitype.

The exactitude with which all work, shews the beauty of all the arrangements made below and above the earth for her scale of rise and fall over the sun. Loss of distance once attained could only be by loss of correctness and power in the pure laws of her and the universal ones of physics, as the addition of the fixed stars became a question under the same law of attraction by weight from a point central, and changing points circular for the earth's round in the seasons, *i.e.*, climate, or chemical powers in an elliptical rotation with the scale of weights. This fact is rather a feeling certainty to man.* One atom thrown wrong, and the solid action of all must change the pendulous vibration of all, either under the false

* One half the modern systems of interpretation on calculations and experiment are got up to undervalue, and often entirely deny this power and responsibility of the human race, as corporeal units under the same physical scale with

force of weight itself, as a dead solid, or of false property in it; and all properties, being conjoint in action, one false action of any property (moral or the physical) had to work on a scale so pendulous to receive, and so immense to stamp the result as the genera at work for ever. The fixed stars, and immense outer heaven they float in, is as the steadying weight of the case encompassing the clock's spring wheel and chief works within, with the advantage of being motive parts to the general accuracy, and not dead weight only. Sealed to an idea, or either immaterial property, in parts of one final atom's true centre under God. Each star and planet must, with the sun, moon, and earth, have the same power to draw according to their mass the common blanket of the "Expansion" or medium around their own bodies for due restraints on their own vital expiration of heats; and yet all submit to the density of the circle of that expansion, as ordered over all by the superior attraction of the heart sun of the system. Thus, geology, by proving the earth's own body has been developed on this system of a just chemical generic, from the centre to the surface, under internal heat throwing out the body, and so leaving all the surface in its variations, and just divisions of solid and fluid, coldly sympathetic in chemical action with the air, proves the fitness of the laws Moses teaches for the more refined and distant scales out of reach; while astronomic fact confirms the consistent justice of practice in the system by the supporting working hand of God on pure ellipsis.

all the universe. So long as that is the case the silly effort must, by prejudice, ruin all just hope for right readings in a scientific point of view. Whence come new diseases? Is it all of the lunar influence only or of all the mass above and below as active and acted on?

The calculation for the spring of a flea does not depend on the weight of the body, although it must have solidity as weight but chiefly on the attainment of the universal ratio of the entire system to provide the chemical constituents of its force at a given point for the formation from the germ, of the chemical association of such powerful elements of spring in the bones and nerves of the insect. The power of the solid is therefore to be added to, for impact on a medium, by chemical spring giving advantage, and so it must be used for fixed stars over planets. Forces of liberty have not been calculated for at all by astronomers. Half of nature left out. These (*i.e.*, the forces) accomplish the wondrous variations of an ever multiplying scale, universal, with all the refined and subtle instructions and disruptions of life and death at work on earth, or which may belong to all the morally irresponsible stations within each globe, until the rising ether of cold matter, in the purest luminosity attainable, by the decomposition of the thermal stream, under the attracting, compressing, digesting, mixing, and refining again from the centre, departs to the confines by the last pressure of the outer ring of the "Expansion" expanding it, and so preserving the pure beauty of the title as philological and synoptical; perfect in awakening contempt for the despisers of Moses or rather God the Spirit—the dictator of the term—and there by the double-fold and wave-line constantly enforced by the changing scene of attractions within, and the power of the new stream from without, forms the skin or veil finish of the universe in space.

The same law by which a cuticle must be formed as the last act of chemistry on the line of its power—the horizontal—whereby our skin is made as a finish to the body, but by the pressure of a secondary expansion, so wisely prepared on the second Day

making for us a flexible easily moving solid. Yet even ocean currents, when they have the constancy of vein actions, like the gulf stream, must have this law of chemical divergence from the volume they pass through, however refined—the wall of the eddy of the general ocean vein, or current in a vein.

Before we consider our diagram, let us observe a few facts well known.

Dead solids in a fluid medium of less specific gravity fall together, as we have seen, retaining their old forms except as the crash may modify them. On this fact in the dead the astronomers have built their theory. Solids cannot however pass through each other in change, except by chemical solution to a fluid state, or some vast force below of chemical plutonic power, and this by pressure the whole mass must unite to exhaust. Fluids can only be said to pass through each other by the same law of chemical solution; as the mere act of atomic motion on them, as bodies, is only plutonic force throwing up, in a greater multitude of activities and places, volume. Thus, specific gravity must rule position at last—but change in it is universally the work of chemistry.

Unless also mass, varying only for power as attraction works in it solidification for stability, be the law of its force—there would be no means to know the strength of a body on its own parts; a wheel for instance on the axis—however the chemical state of the wood may vary it, as a second law to be studied; or for the value of the ballast of a ship for her stability, at any elevation of the wave; and the inverse to the distance would be help to ruin on the crest in a storm, as the danger in the rise makes it desirable it should tighten by all below added of the globe. By the fact that all change which is not chemical in atoms must be sheer crash on weight,

as a dead burst by pressure, we have the same need that mere distance from the centre should have no power; and that it is so for the motion in atoms of air, as well as rock plates, only on smaller scales of division for the mass, shews how truly the universe is moveable alone by a sustained eternal radiation of heat in solids to all parts from the centre, supported by a baptism of eternal fire from above in mass. Other rule would ruin rule, and be only confusion to the idea "Law." By chemistry being, however, a copartner universal property but subject to variations of power, under attraction and expulsion by pressure of attracted masses, (and by having its rule for action double, *i.e.*, disruptive and cohesive in all matter according as it passes toward the centre and partly leaves the scene at night after day, or passes off,) it obtains its greatest force as a floating agent for the horizontal line, or true means to rectangular power in masses across the two lines of centrifugal and centripetal forces—draft and radiation by pressure—and is always at work in the proportions of a just division of its force on all bodies, so that no act by heat is sheerly upsetting. The law of chemical antipathies never being perfect against the solvent forces of caloric at any one point. This proves motion will not do the work of caloric although it must always awaken it. So in spite of all Professor

NOTE.—The beautiful heavenly pyrotechnic exhibition of rushing meteors is thus easily accounted for, as the ephemeral liability, in the rush of vast, but very refined streams of the upper currents between the globes, developing spontaneous combustion in the present state of the ruined rags of the system. Sometimes producing a solid precipitate in the form of new and curious stones. The 33rd year danger on the burr of creation's disordered machinery by human sin on the system. A chemist knows how to imitate it by conjunction of gasses adrift.

ndal's clever experiments, motion and heat are
 the same things. Push is one thing, as of the
 ce of dead-weight on dead-weight; chemical
 ion or heat in action is another, although in the
 fect balance of universal claim in both properties
 operation of one cannot take place without
 akening an elliptic measure of the other. But
 same may be said, as we shall see, of magnetic
 raction under electric development. All aid,
 h in producing and checking motion. Fuzee
 ce is, however, thereby proved to need juxta-
 tion, or the conduction by solid touch, however
 it in the expansion, to the utmost bounds that
 properties awakened and given by light are in
 , or on a string conductor. Such line guidance
 st be through a body, attraction alone acting
 ough a vacuum. The man with the pendulum,
 our diagram, has the whole force of attraction in
 earth acting on him, because he is above the
 izontal line of all. So have each of the others
 any part of the surface through their centres of
 vity up the axis of longitude, or line of thermal
 tive power on fluids, across the breast and back
 es, or latitudinal line of more fixed solids to the
 ll. On the human head will be found marked
 h circles of this elliptical cup power, on
 ch the regulating force of all motion depends for
 our, health, and comfort. Thus man naturally
 a physical satellite of the earth under God as
 ch as the moon, and all animals are included;
 ral intelligence alone giving man another law of
 e and impulsive desire by Christ, who was also
 Word, God over all, who took also this servant
 ce. Impulse, otherwise, will be in the creature
 the constitution given in natural birth and cli-
 te forces, the governor by the instincts, as cer-

tainly as that the moon daily is directed by the same laws of loss and gain without instincts which rule animals under thermal principles by them.

If the globe be a pure sphere, the attraction will be toward the exact centre; but why? not because of any peculiar fascination in the atoms of the centre upsetting the law of mass for some hopeless unattainable property, but because the law of mass is enough; as be the model of the globe ever so elliptical in its true geometric action, to that point will the feet of the men, and the hanging pendulum tend, simply because *the main line*, not only to the centre, *but right through*, acts as a guide to the relations under attraction, as in that path the manifestly superior.*

Thus, as has been proved by pendulums on different parts of our earth, the force and direction of them varies to shew the globe is elliptical; and could they be carried fully out, the result would be the same as the so-called aberration of light, and prove also that the longest line and commanding steadiest one is not through from north to south, but on the longitudinal axis, as before proved the greatest by mass, if the experiment could be free from the heat of that greater belly radiating support. Light, as a commanding solid, subject to draft and decomposition, fully accounts for this; for if we draw a large circle, and then a small one, as a dot, drawn towards the other part as of wholes, immediately one joins the other; and on a fluid from the first, the action of all the parts begin to

* According to men of the central point school, either of versus or additional to simple mass-rule, attraction in one half acts on England's people, and the attraction of the same mass does not on those at their antipodes. So the centre annihilates the force instead of adds to it!—a curious theft in law as to simple gravity.

vary, so that it must be subdivided among all parts, while the central lines will have always the advantage, its share being the largest, because to that side is the most powerful draft. Thus heat, in food, acts immediately it enters the human system, to be reviving, and does not need to reach the heart as developed blood, although it must act on and at last increase blood already in circulation. This is a law of the decomposition of light, and full force of weight in the day part. Now, because this certain fall of the bulb toward the centre, and the variation of the centre to a point in the body, where the reaction of whole resistance has developed on that solid the refraction of light on the angle of incidence is required, (neither of which could have a just cause except as it was of one refined while entering a denser one, and which angle by resistance must be much greater, if it had not been given when the both masses, darkness and light, were as infantine and similar as possible, so that the final angle and form under it should be of progressive success in retention of internal vein power, from the first,) men of science, puzzled by the elliptical variation, have fancied some mesmeric power dwelt in the centre partly ruling, while they partly owned it of mass.*

Illustrate the law by its congener in nature, but opponent in line, magnetic attraction, of which we shall speak more by and by, and put several magnets in line—say seven of equal power, then the

* Engrafted magnetic power by electricity, or the generation of light in the interior, will be spoken of further on, but being dependent on the constant currents on any point of constancy in sympathies, it will, in the centre of a system, not upset, but only seal the first covenant law of common attraction by mass, working with it as $a^1 = 1^1$ of the whole globe in unity, and the universe.

centre of attraction cannot be gained for any other point than the centre of the middle one, as far as they are mathematically measurable in any just formula; but if they be so separated amid resistances of other matter—air and what they rest on—the centre of attraction may be alterable, and the rule for speed in a needle be so governed also. How are the compasses managed on board an iron ship but on this rule of ratios in all the mass, air, wood, and every atom extant, for the horizontal level by balance? Now let us read our numbers 9 to 1 or 1 to 9, and *pressure* increases in the centre as it recedes, or rises in the numbers on the exact ratio of column, because the mass does, while attraction *decreases* for any superior line nearer—the one inverse to the other, and inverse to Newton's definition. But ere we rise from the centre, where there can be no superior line at all, we find the whole attraction of the mass the same for aid to any motion, otherwise given—that is, the check force which causes the bulb to be on its pivot, and is the cause of friction and fall in the greatest severity by all the mass on the surface, not from the centre only, but the whole globe, is now utterly lost, and had the astronomers been able to gain that point, they would have found themselves unable to find a central line of attraction, unless by a force over all from without, and that all the universal mass around was wanting to have a bit of their boiling blast. The force of attraction is 18 on cubic multiplies, or of a sphere, on the main line through from without, but the force of horizontal division of it, as pressure on the centre for any point from the surface, is also 18,—or Newton's rule for *forces* of the centrifugal and centripetal power—equalized. Thus in a solid of unity, in the one

property, the force of gravity is the verse of the distances, not the inverse, as it *only* appears in some mediums. How? but only because the law of solidity for attraction is turned against its own lonely death-swallow, to general inertia, by the interjection of a more refined and chemically refining stream of solid on solid, making the dead alive by turning the law of death into a law of useful restraint to support and regulate the forces of life as of quickened pressures on a governing tempest. Thus, while the attractive stream must gain the centre, and by the constancy of that stream, new, preserve from the effect of over universal requisite rejection, unto exhaustion, yet as the law of attraction is made active on all the mass in constant rise and fall, while the most refined atoms of digested light alone keep in flowing radiation and renewal the centre to support life around it, there must be formed a convex heart of the most heavy *flowing*, heated and falling solids, as the cauldron heart-preserver of vital blood. This law has blinded the astronomers against light holding both points of command. The centre of the heart to make it a heart in life at all must be held by light—the true caloric. Thus, as the astronomers descended, so far from attraction altering in ratio, it must have remained the same for the swing of the pendulum, as what was lost for the force of first fall, but greatest amount of friction, was gained by the side or wing action of the upper stratas, and reduced friction. Thus the rule for gravitation, alone, is the more perfectly proved than ever to be on the just square—square in square everywhere. Which by itself is a do-nothing, change-nothing law, except as mass may be added to, solid laid on solid for *spheric forces rotatory*, to preserve the cubic

action also. Distance, too, it is certain would not alter the matter, as the attractions of the earth on the pendulums fixed on the surface, would be exactly the same if she was miraculously compressed into half the compass, so as to have only two thousand miles to her centre.* The whole point is ratio of mass acting either surroundingly, or in a straight line to one direction.

Again, for illustration, Suppose the moon had been suddenly forced by the Creator into the earth's belly, adding to her solidity and weight, so as to quicken the fall and friction of the pendulum to a rapid collapse of a double drag, would that aid in obtaining the sort of result the astronomers came to? Is it not certain the improved ratios of attraction in the mass would have been the same on the men and bulbs as to mere positions. Other experimentalists have owned that this ratio of the matter left on the wings produces this effect in a mine, and indeed how could the action of a mountain on the side of the pendulum be tried, except on that very condition of the law.

Experiments on Schehallien have been made, to get at some of the ratios on that plan, only with the usual error of not considering the action of the medium, or air in columns, but distance only, i.e., nothingism. Immensity of mass we find has nothing

* Yet because a body falling from the same distance from the centre would, in such a medium as our air or the upper ether, increase its velocity to the distance on the longer time it had to reach the surface, astronomers have given the law for gravitation of the inverse ratio of the distance, instead of the verse of the mass, and verse of the times, both of which is a square-root force by addition—not subtraction—until it is reversed in line by a separating mass so defining, as of column against column; not of space, but matter.

to do with the command of light, so as to hinder it, but must increase it as mass increases, even if all the universe was shot into one globe; but for the divisions our system required on surfaces, and many globes, abstract variations in the densities under chemistry must be given.

Dr. Lardner said, in his paper on Science and Art, "That supposing neither the resistance of the atmosphere, nor friction acted, the ball will rise as far after the first fall (from any given point of constrained elevation) as the measures of that half oscillation."

Never was there a greater mistake made in collating an experiment to obtain the abstract on forces of motion. Besides the fact which the learned Doctor no doubt saw, that unless the inorganic bulb had a solid arm, and solid rest, on which the check of motion, or the drag which generates friction of solid on solid is,—it must by a sudden fall cease to move, and thus prove, what perhaps he did not see, as he never hinted it, like the rest of the astronomers, that no mere inorganic clods could swing in pendulous liberty over the solar centre for ever as our planets do—so they must be organic,—there is another point in which the law of renewal is demanded, *i.e.*, the one of the superior force of our central directing line of mass.

It is only in the heart-centre of the universe this law of unity in action and reaction is the same, and as thereby supported on a minor by the same means of propulsion from without, on any organic heart equal to the keeping it to this life ratio.

When a mass of matter moves or swings on a pivot or is flying free, it requires the steadying aid of a superior line of relapse to fall, by attraction being arranged on it greater on one line than any other. Having that line in greater command than all the

centrifugal properties and means can have in it. Hence, God does not make birds to fly in the hades of globes—and even there the fixation of the rule of chemistry, *i.e.*, to lose power of preserving the fluid state, as it is radiated in exhaustion, would leave all to stiffen, if the thermal stream in its superior line, as the chemical arithmetician dissolving the figures, was not keeping solubility up to the life mark, outwardly for its line. This law of the two lines—*in* for solution on principal action, and *out* for solidification in superior rest, Professor Tyndal and all the perpetual motion men, for a universe of no additions have not seen in their philosophies. The point, line, and effects, thereby of the greatest death-stiffening-action, missed. But as far as the air is concerned, although a check on, impact, it is, as a fluid in constant motion, the only likely aid to constancy—but be its effect what it may, there still remains the fact, that when the pendulum passes over its centre of gravity, it passes over a point of greatest power in that law—and so the reaction cannot be equal with the action, however near it may appear to come. In fact, air proves, although, besides the impact, there is its own disturbed action toward the centre on the other side unequal on the resistance, yet air, being more free and equal than a pendulum, can be made to rest, the longest line through demanding with an iron voice restoration to inertia,—whether for a mile or an elliptic form, otherwise, why does not air vibrate for ever when once set in motion?—what makes it again still? How is it, a pendulum not only becomes still on that point, and can choose no other, and an India-rubber ball well bounded comes to rest? Action and reaction are not equal under the property of gravitation alone in any present mass. If our men

of science have that to learn they are so little taught in truth, that on gravitation their process is to support air under attraction to do its work of eternal motion. We can only speak of action and reaction being equal when we own the creation of a sustaining vertex force of matter making it so against innate collapse, because that is the first, and a commanding law over all within.*

For it is certain forms of superior motion, are elliptical, and so must have a superior axis of attraction within. A pendulum is a sort of dummy assistant, of no use, except as we study it is as this mere dummy for organic bodies.

The *force* centrifugal, which it has to decide, is the *force* in the human body, which has *forced* it out of its natural level, and attraction only proves on it, that inertia is certain without the constant aid of the vital forces of the same body, or some other which has it on the same principle of dependence for supply in life. Simplicity and magnitude of grasp in the mind to read the greater by the lesser is what our philosophers appear nearly destitute of.

I have then proved, that the law of mass in attraction is in absolute evidence against the rule adopted by Professor Dunkin and his associates, "That the result obtained from these experiments is the amount of gravitational force at the top and bottom of the mine, and to assume (as they have)

* It is a singular fact in the ungovernable Promethean idealizations of mighty intellect in our day, that while throwing away the regulating key to the scientific thesis of nature as used in Genesis, they have got hold of an idea that gravitation cannot work without light, but is generated by it, and then throw away the only means light can have in the consistency of the law, i.e., its leverage force as a gravitating new corporeal fluid.—From *Scylla to Charybdis*.

that the increase of force at the bottom is owing to the greater density of the earth in the interior than at the surface" is all unfounded. Such a result ignores the law of mass for that of mere compression but denying constant attraction as a principle, and makes the smaller mass by it superior to the greater. It would involve that Mercury, as a less mass, more compressed, might at the same planetary distance produce greater perturbation on the earth than Jupiter, or even the sun. Why then does not the earth follow the more dense body as Mercury is than the sun, and at times so much nearer? On what principle was Neptune found, but the entire absence of any unknown law of densities in the unknown mass, but simply of the force of mass *through and all round* as the cause of simple weight.* But the pendulum below the earth's crust did, my opponent will say, move more swiftly than that on

* This point is treated with consistent accuracy in *C. Tomlinson's Mechanics*, (*Weal's List*), therefore it is right I should not claim it as totally new. But our astronomers appear to have lost it again. On the fact that every part of the mass affects the pendulum, he says, "The lunar inequalities prove the same thing with regard to the matter of the earth. But a more satisfactory proof perhaps is derived from the fact that, notwithstanding the diminution of gravity in ascending mountains, it diminishes also in descending mines, because the stratum of earth above us then opposes instead of assists the attraction of that below." But even here the manner in which the decrease of force in ascending the mountain is thrown in with that of descending, shews no clear idea of the rule for variations under mass, by the floating medium, as mass in one line below was plainly increasing by ascending the height. The decrease also can, as I have shewn, only be for the time force of first fall, but not the general ratio of motion afterwards, which wing attraction aids, until at the centre—there being no force for the first fall—there can be no line on the wing for its continuance of the inorganic body.

the surface. How was it if not by some cause of greater violence of fall by attraction? There is the rub no doubt. Is it not possible there might be such another? One thing is proved, it was not, and could not be the one of approach towards a denser mass—this is floored, even if it did so come nearer in space, although, as leaving part of a column of ether or substance new-placed. The law of velocity in increase with the ratio of approach to the centre even in air is known, when all experiments are fully considered to have a growing variation. For as the cause of check and support are the same, it is certain the supporting power of air, as a leverage of surrounding solidity to aid the upright in men and trees, is greater the lower down in the horizon the stand place is. Thus even in air, as well as the ocean, fall, and therefore motion on a pivot, is not possibly on the eternal increase towards the centre by any superior means of attraction thereby, but only longer time by the same great variation of density. How is it these simple facts have been of so little use to men of science?

In considering the beauty of the fact that air as a secondary "heaven" is called at first an "expansion." We must admire the perfect finish of the synoptical accuracy of the Mosaic history, as although by the expansion of matter the common law of its ratio violence in one part against another, either of its own volume, or any other, is unchanged, and so conveyed,—yet the actual measure of this constant expansion of its substance has blinded philosophers of the first order on the first law of leverage—making it of distance instead of mere expansion, which may be of distance in increase as in air, or decrease as in water. The term expansion, therefore, defines it to be for the like of the final force of

the universe's yard of matter in space found by the diameter and length of column needed for the rise of stars; the difference in air and water in this respect might be of immense use on the scale of weights for globes, when error and prejudice are swept away, to find the whole expanse or diameter of the universe. Let then the student admit the same rule for mass through which we find the fact for any variation of its substance on the surface, and that as all masses there melt under heat, or rather swallow and mix with all the refined volumes of matter which by the earth's position *over* the sun are plunged into them, and that this result on supply being constant from the fountain without, by the rule of attraction of mass on mass—so that by the longest line and greatest mass, all through, the centre must be reached, and there the entire force be one of relapse altogether to another line of action, *i.e.*, outward by universal pressure adding to attraction a contrifugal greater force,—and then, while the mass on the lowest pendulum was unaltered on its ratio of power by mass on simple still attraction, it was subject to the outward or radiating force, which the depth of the mine could give for that of vital relief from convulsive disruption of the bowels of the earth. The more deep the more condensed. Thus what the astronomers were finding in their experiment was the force of motional energy at that depth which the vital power of light has on the earth for her diurnal and annual motion, nearness to her heart-quiver as the pulse-fountain within. *In fact measuring her forces of fluid life while they thought only of obtaining the force of death.* The motion of the pendulum below by its greater velocity proving the fact, that death as whole pressure from the surface,

where the slower pendulum swung, is made by suction and pressure to work in the earth against inertia and develop action. The great work of God in this universe to make the apparent evil bring forth under his own overruling hand the good. Did the astronomers really believe they would have been frozen to death as the result of the increase of attraction, instead of whirled round and round in a boil, if they could have gained the centre? Is it not certain heats increase as we enter the earth's bowels, and frosts increase in power to crystallize as the mass from below is higher on the platforms above by the radiating liberty in space increasing? The astronomers in the Harton Coal Pit have proved their own theory wrong, and their opponent right!

Before we leave our present diagram we may as well study a beautiful result of this law of gravitation on the human frame. The reader will observe, that, as we have proved, attraction always acts most powerfully on the surface of a body, through, towards the centre—and thus such a free agency as our air is needed for the spread of organic forms occupying the surface—the men have acting on them this whole gravitational force, aiding the stamina steadiness of their bodies for maintaining the upright and firmness of step required for the functions of their being—while the vital resources of each combined mass of atoms, chemically fitted for organization in their bodies, work the requisite relieving and floating forces their weight by mass requires for that position.

Thus while we see that mass for steadiness must be subject to greater condensation in attraction on centralization than expansion, and so that point of superior inertia be sure in any mass of masses—to the universe—to be a further condensing and motion-

subduing one (as our cup of water shewed, by experiment, if not mastered by a means of flow from without), we find the exact measure of the earth's serious hold on the feet and general system enables mankind to maintain the upright before their God, with that gentle lean backward which throws the face and breast more towards that gracious Father of All in heaven than toward their mother earth.* Personal organic defect by sin alone injures this in man, but the order of chemical sufficiencies in other animals is not equal to this loftiness of brow and look under the longitudinal superior force of life. Thus we get a key to a most beautiful system of science which our anthropologists and geologists must be prepared to meet when they expect to find any anatomical figure among the fossils like man. Mere station is not all—it is as much a question of the progressive preparation of the oxides of the soils from which animal bodies are taken with their proper food and its soils, as of any other law in the elemental energies of development in time,—the Eons required for nature from her first nucleus of the earth to man in chemical results. Thus it is, that even where animals have run through several series of geologic changes, modifications in size or form

* This beautiful fact under the infallible rule of gravity, that in projectiles the point of the heaviest mass must be the leader under the true line of the centrifugal "Powers" place, or point of projection, makes our earth, and all planets, look constantly upward, as in desire for more milk of light, and more space, an increasing field of a suited heaven, and a nearer approach to the bosom of Jehovah. Most sublime fact on Nature's face, the law of equal reactions by whirl, making it of no importance to a globe what part the superior mass takes, provided it exists above and off the colder axis of the solid, but by the same centre afloat, points direct to God above.

were needed to meet this law. Man only being equal to the upright projectile angle under chemical power between his fulcrum of rest through the backbone to the heel, and his superior one of motion in longitude, to the ball of the great toe from the skull through the heart; which the finish of creation, in the earth's full powers, as the last "weight," can develope over her greatest position, on life and death, for rule—her surface. But this point, I must not indulge further on in this part.

But these variations on heat for motion and growth, and cold or superior dead attraction by the solids on positions, is found in the ethnic distinctions of the races. The dweller over the polar axis is short and condensed. The inhabitant of equatorial regions light and lithe in the extreme, while the inhabitants of the intermediate locations with those nearer the equator who dwell on great elevations and condensations of mountain masses partake in the greatest degree of the doubled force of solids on fluids or thermal dynamics in a perfection—the work of all the universe under God.

In a universe worked on a rule, by the centre of the parallelogram of forces, its basis is so absolute to progress, as a law of life necessity for the good, that no time, place, or nature, throughout eternal Æons could ever develope two parallels of equality; all must be known by great distinctions. So the testimony of the Word of God is—it is all unparalleled throughout. How just and how beautiful to the glory of a true God, as worthy the name of "The Deity" is true science in its voice. Grant, in his *History of Astronomy* admits that the pendulum experiment for the densities of islands is opposed to the common rules, as held in the day. The intensities being greater than on continents.—
Why?

On an island the line through must act with most simple and direct force, as all the immediate surrounding mass of air and water, &c., is of the lighter; and as the whole mass of the solid globe is acting on the pendulum, increasing the drag power on the point of friction, where the check line for stillness is greatest—the fact is perfectly in harmony with our diagram and its analysis.

Attraction is in matter alike with it in money—the expansion of a sovereign from gold to silver, or pence, leaves value in the one case, and simple mass in the other—diluted or reduced; but still the question is one of mass in the copper or silver to get back to gold. Matter to be comparable in value and effect, must still be matter—on which all leverage depends, and on it all upward motion, by touch.

In *Tomlinson's Rudimentary Mechanics*, (*Weal's List*,) we have more evidence on the self-contradictions which have been fallen into by pendulum experiments—which the first sentence of the Bible was given to prevent.*

Page 146, says, "Moreover it follows that as all the planets are deflected inversely as the square of their distances, they would be all deflected equally if at the same distance, *i.e.*, they would all fall sunward with equal velocities, &c." The rule of an expansion of atoms under a law of material equality, as of a true atmospheric upper ether by law, meets the apparent fact as it regards distance; but as astronomers admit the planets have different densities in their volumes, how could they fall sunward

* The repetition of these contradictions in so many mere class books, will shew the reader that I do not in the least infer any of the authors are connected with the sceptical set. The errors in science are common in all our schools and colleges, and among the best of Christians.

with the same velocities at the same distance, as though they fell in vacuo, and yet by greater distance prove there is a ruling cause to make their difference in mass act in distinction on attraction, and their diurnal velocities so as to reduce or change at all. This is submission to sheer miracle, which when we have no scriptural authority for it is mere human fancy. Admit the universal medium over dynamical finalities, and all is simple and natural as well as scriptural. But in the above extract mass is of no import at all—quite turned out. Again, another self-evident error about virtue in points is found in that work—thus

(154.) “So far we find nothing to contradict the idea that this force of attraction is a peculiar virtue inherent in certain points, simply as such—viz., the centres of these great bodies. But Newton’s generalization went a great deal further than this. Having first proved that all these effects would be exactly the same, on the supposition of a similar force exerted by *each particle* of matter composing them, he then showed that there were certain other phenomena not explicable on the former supposition, for though a *sphere* composed of attractive particles will produce on every other body exactly the same effects as if its attraction resided in its centre alone, this is not the case with the spheroid or orange-like body, such as Jupiter, and accordingly there are certain variations observable in the motions of his satellites which shew that they are attracted not merely by his centre, but by every part of his mass.”

As we have taught that the first law of motion is a representative of addition and love, or desire for union in atoms of the same nature and there rest—if the bodies Newton spoke of are only allowed to *make love*, all his apparent complication of two

or more laws, is reduced to one, and each planet may say of each other—the sun—or their moons, I love you from head to foot and every atom of you, but as the line of that mass increases in greatness over my heart from different points, so my delight increases and varies on that line of impulse or sight, and in passing over a spheroid it cannot be as regular on the centre as over a pure sphere. This only affirms the law to be simply of mass over mass by line, which meets all the facts of the case. Over an orange-formed body it must then so change in a just medium, subject to the same law of love. To hope to find a true immutable base law for physics is otherwise hopeless. Yet so incapable was the writer of seeing the just conclusion, he curiously says after this—"Other inequalities in their motions also *prove* that they attract each other, and Jupiter himself, with forces exactly proportionate to their masses, &c." It is, and it is not, and all proved at every sentence. Rather puzzling work to the scholar, and very different from the "yea and amen" style of the Mosaic dictation on the thesis of physics. Wherein the value in science is really a Principia. Where is the greatest force at work to start an avalanche of snow as its bulk increases, but at the greatest height or distance from the centre by greatest attractive force in the mass below? This will be quite enough to shew how far the pendulum experiments can be used as a hobble for the magnificent forces of the

NOTE.—Thus the pure moral beauty of the Poet's line, "Absence makes the heart grow fonder," is truly expressed in the primal law of nature; while duty to God heavenward is made a pleasure in the loss of close company, by the organization given by light. Attraction by the increase of a dividing ether increases hold while it so far separates. —To love God more is not to love Nature less aright.

Physical White Horse of Jehovah. The milk of that new and fiery eruptive light He has made this universe dependent on for all its vital forces of motion and order of changes, on a true time table of law.

Where the premises assumed are all in confusion it may be presumed the accuracy on the proposed end respecting the comparative weights of the planets is not worth much as yet. That point will be referred to again, and so we can here conclude this subject on the Harton Coal Pit Experiments. They are demonstrations that light does reach the earth's centres although in a floating, thermal, mixed mass ; and the rule of weight will draw that mass, making it under the given superiority of heat, the first in motional command, *i.e.*, solidity inertial, instead of, as before, dispossession by light, having it, it is plunged into a heavy, dark, heart-cauldron, elastic, solid, fit for (as in all other organic bodies, whether of nature or art,) the work of holding, retaining, and emitting the centralized volume of more refined blood, on the just scales and ratios belonging to its department as a boiler under universal law. We thank the astronomers for their unwitting aid to the demonstrations on the perfectness and consistency of universal physics, as subject to the need of a baptism of the waters of fire in vertex leverage, and heart penetrating sufficiency from the eternally new—out of nothing—from God. Had they only inquired by science, what the result of their own theory must have led to ? its impossibility would be evident, as, it being well known that current flow from the surface of all solids is continually going on, how increasingly dense, as for a commanding further development of a single property, must the earth's centre rapidly become had the Creator not arranged the laws of forces as

eruptive from the full centre as it is inclined to deposition from all parts of the surface? because the longest line of gravitating weight, or leverage of matter, on the hydrostatic balance of all fluids, over all solids, is the heaviest of all from the longest axis of a universal ellipse in motion; and this line is absolutely required to be of a rule for the last line of pressure, expulsive by radiation, to be also the same projectively away to bring all springs to the surface. Now all the experiments of the coal pit astronomers, and those of Professor Tyndal, the one on solid weight by attraction on swing weight, and the other of heat as a property needed to work in equal ratios with mass, only prove by the fact of this longest line of elliptical overflow of power, over solidifying contracting inertia, that this line of longest force from end to end, in return to the same point, must be the greatest over all, both for heat in matter and weight in matter. And as the last act is expulsion by all, to secure perfect healthy circulation from the universal centre, the gift in the property of heat under all the force-proper, as real dynamical action in the substance, having place command for its line in space, it is self-evident the power of return or any extreme recoil does not exist in the properties of nature from her final surface; but the quantity of the final radiating exudation to the extreme point, in the major axis especially, must have all its measures as a mere lost manure and dung of value, unless sent back by the power of God as mixed, even as man is fed, with new light; which at that point keeps the universe, by that point,*

* So simple is this, under experiment, that the reader has only to let a solid dwell in a fluid, say a dumpling in water. Put fire on in superiority at one point, and the extreme point of relapse, or violent motion of the dump-

above the force of settlement to equilibrium rest ; and only so, by all the covenant in the laws of the good—the pure—the new and the true under God. The Mosaic system is triumphant. The rule of the square brings death—if alone. Our rule of natural physics is perfectly clear and just, as developed in natural experiment from the hand of God in nature. It is of every property in matter, as that of figures, or matter over its own being, as worked by Him on that scale over all—*i.e.*, the rule of the perfect square as the first original working root for the mass extant. Pressure is by the rule of the square of the mass—release and resistance, chemical or solid, on the same ratios inversely to each other for lines of the same mass, by the square under disturbance, or by force over all central.

Sir J. Newton made his discovery on the fall of an apple through air, where the increase of forces is as the ratio of figures, which are all units, but affect each other's value on the line—as 1 is affected in 1 1 1 1 1 1, where the process of division from each unit by 2 is of the constant decimal, while fixed on one solidified scale. This is the necessary order of developed division for any correct medium or heaven. In 1 1 1 2 1 1 1 the scale is altered as to numerical case of action for the division. A cloud is in the scale of a heaven, and had Newton's apple fallen through the curl of a fountain spirt, half way to the earth, he might have seen the error of his definition for gravitation, as for the

ling, will be at the point where the fiery stream of wasting matter outside is greatest. Let the fire without down, and it will not make a full return to that point, but settle again at the centre, by the invariable rule of gravitation of the equal radii or square-root law on a simple mass on mass, but by involution, or law of the solid in a dying float.

whole scale of nature, by the inverse ratio of the distance on rise and fall made all of mass. Now, no astronomer who has not seen the scale thus, for the action on a pendulum, as greatest for resistance (found in the pivot of friction) and attraction in the upper horizon, has understood the first laws of mathematical justice in nature; for it would be as just to suppose our divisor 2 had equal resistance (and they know the resistance on the pivot is decided by the attraction or adding power) after it passed the second and fourth figures as at the first, as to fall into the error our astronomers have by their experiments at Harton. And the fact that the resistance is always on such pivot of swing in a dead lump, as the attraction decides for it, proves that Jehovah is just to this scale in the final centre for all properties under attraction, pressure, and rise, ultimate atoms being held in their own bodies by chemical powers. When the ultimate atoms or figures are disposed, as are our first numerals, the last resource for the refinement of a space for matter to work in, on a just law of interior competitions is obtained. The only empty spaces must be between the floating parts of ultimate figures, and then it must exist as in our sun, because, otherwise, we lose the rule of space and of mass in space, and the figure must resolve into one figure; somewhere this division must exist, but as the law for force is of pressure by an innate given force, it can only be of the ultimate atoms touching on the bounds of their circles, as condensed by the property of chemical cohesion and pressure to increase individual forces, and then the rule of motion must be again on the square of the body, as fixed in its radius to one centre. The square of the lines and distance, like the hand of a clock, regained by column.

No astronomer or experimentalist has a claim to the discovery of a medium or atmospheric state and law, merely because vapour is known to float around globes and fill space. The earth's power to throw out and encircle herself with clouds in one fold (which would result if she had no atmosphere to divide that mass) would not be the possession of a scale atmosphere or heaven of truth. Neither has any philosopher any claim to the discovery of the centrifugal force who resists the invariable fact that the law of gravitation must be held as miraculously suspended when spaces other than those between final compact atoms, as ultimate, or made particles, are not filled up; it being its especial duty as a law, in additions, for unity of action by mass as weight to order the chemical changes in all bodies in motion also. Neither has any philosopher or experimentalist such claim who has not seen, that as the force of pressure is the last act of nature on her fluids, to have power to dispose of them by the simple question of lightness, for full life in circulation, no measure of internal force of heat can be other than exhaustive in radiation according to the force of the whole mass on one centre by such last action of pressure; and that the power of recall is therefore hopeless. Hence, there must be the new stream of eternal creation dependence from God, as the calorific baptism in counter action to subsidence according to the square of the forces in the whole mass increasing for ever. The divisor for eternal action must be eternal addition, as mass with heat, for its divisional first properties for admission by chemical solution and disruption. So Jehovah teaches in his Word.

CHAPTER XI.

And he rode on a cherub and did fly.
Yea he did fly on the wings of the wind.—Psalms xviii. 1.

The Force of Light as the Centrifugal Force of the universe, and the associate in the corpusecular government of a universal firmament demonstrated, to harmonise with the Laws of Kepler as well as those by Moses.

This, of course, is the most enlarged evidence on known facts of scientific research and progress that could be taken, or demanded, at our hands. Probably it is too high to have ever been thought of. To settle it for Kepler's laws will be passing the *pons assinorum* placed before the native Dunciad of human unbelief, as it proves by long established and practically useful facts the unity of the universe to the laws of her general covenant, especially that of common atomic weights and the result of pressure on one centre in the works of nature by the immediate hand of God.

Kepler's discoveries are said to have originated in an idea respecting the Creator's principles of working physics, a just and pious one, which union of graces ever leads to high success,—that all the powers at work among the planets were based on some fundamental spring-roots for the times and

distances. In fact on some just root for the base law, worthy of God.

Hence he set out on a system of guesses; trying, by comparing various ratios, to find those consonant to observed facts. At last, after being long at fault, and passing, through an incorrect calculation, the true one, he returned to it and made the last of his discoveries on the ratios of the annual times and distances of all the planets, whereby now our nautical astronomers work and steer.

Even then, as all his struggles proved, he had no idea, Why it was so? The enquiry appears no further to have entered his mind, than as a mathematician he had a presentiment the cube root and square had the most hopeful alliance for a ratio, where the square on the square, as in clock times, is not the fact. Now, as in abstract geometry, so in natural law, working to develope its beauties, the square root must precede, and be the base of the cube. The square being the first relative constant multiple and resistance to the primary unit one, and so as less than one is naught, it follows that nature cannot be carried on as such by any lesser number in mass or column than a line or bed of masses one. If a figure one be subdivided, it cannot be without the aid of so many fractions one, and as all atoms by the law of gravitation within their own bodies must form spherically, the subdivision of a circle into other smaller circles ever demands more space,—but between the touch points

NOTE.—If a balloon rises in air, the centrifugal force is the gas, and the rise is centrifugal, or away from the centre. If it gains its equilibrium place under that force as exhausted, and sweeps with the wind horizontally, both the line and cause are different. How then can they be called one and the same without confusion? Yet this is the scholastic system of the day.

on the binds of these ultimate circles, space unoccupied may exist, and thus 0 0, as we find, become sources of extension to the mass of the sum, provided they are based first in a real figure not less than one. The whole system of the universe, then, floats on on rollers, great and small, subject to eternal change and eternal ease, so long as God preserves it from relapse to direct pressure of its whole mass by weight, on its own centre by the addition of its vertex supply of mouth, throat, belly, and heart supply, to make up the constant radiation, which must take place to preserve health and animated circulation to the confines of the system, or as any consistency to the law of universal gravitation. Now when a body, or superior and massive roller of conjoined solids and fluids, held together by the common laws of inertia—attraction and chemical-attained cohesion—and with the solids and fluids so laid and fitted at first for the full force of chemical rotation, for expansion on the axis and rest relapse, is flung forth amid a minute number of the smaller rollers, he has the majestic force of removal of them in proportion to his greater immensity and density of any number of them, holding the same space; and he has, when provided with the external spring fountain, which supplies his own need for sustained vitality against his equally greater liability to concave relapse of his surface on his centre to collapse, the power to rise, and rush upward, until the elasticity of his wing is cooled by the common law of loss in cubic, or pressure-power of the medium, which must lose the rising-power in one circular working hydrostatic medium, as the body gets under less of its force. The first of Kepler's laws was, that the planets made their annual flight in circles of a pure elliptical form. In virtual law as in this cen-

tre, still it is true. The cause is very clear, on our basis of its being by the force of light from the centre acting on the planet, and met by the instant but easy resistance of a medium subject also, and having the dignity of weight and body.

It is easily illustrated by the form taken in flight in space, of the flying top, which makes such circle, and returns to the hand for a fresh impulse. The Australian savage makes the bomerang do the same. First, the line of the first motion of the body is decided for it, with its place and line of projection. Secondly, the medium by being an equalized resister, becomes also a sustainer, both of the flight and the lines of flight, until, as a constant resister of a given finite impulse, subject to loss by impact and the rise from the source of power, and loosening of the physical valves, which retain the vital sources by the thinner atmospheric perseverance of many small opponents overcoming the power of the great sultan of space; the line of motion becomes more subject as it is outward to the curving resistance of the medium, and a point of apse is attained—but the support in both cases, either of the top, or the star, is more conserved on the axial motion of the body on returning, which in the inorganic toy faintly reaches under that straitening line of gravitation, the hand of the giver, but in a flying globe is so much more perfectly the work of life by organization, that, the difference in line and velocities is only attainable by careful observation, or correct mathematics, on the rule of solid forces. If the hands of two clocks of different radii can be made to pass equal times, in the sweep of the radius vector or arm, only by being chemically fixed masses from the base to the point; and any other bodies are made to do the same things without that immense hindrance to freedom and evidence of skill

in natural forces,—It is plain they must be so made and set, as to be capable by the only other means nature provides, *i.e.*, of being worked under a source of thermal supply, of sufficient duration for their intended and known constancy of labour. So, the sealing action of light in their surfaces and various chemical liabilities, in and throughout, closes up the valves at the hours of either night, or aphe-
lion cooling, reopens and supplies them at the hours of day, and the lower apse, by the expanding power it is gifted with ; while the gentle pressure of the firmament of general guidance rules over all in a law of perfect centralization, on one central fountain, with admission in the vast resources in creation for many secondary ones of various orders, and then we have before us the evidence of means being provided for the second of Kepler's laws. The only one without miracle. The actual motion of all being constant in spite of constant relapse in the fountain, after partial exhaustion, and above the triumphant fact that the central fountain is a globe true to common submission, under the same law of exhaustion, and yet is in tremendous constant motion, proves that the whole body of the stars are impelled in their imperious flight along the circles of the firmament—made the play-ground—a happy heaven—undefiled once, and of most gentle floating and guidance, yet firm to rule, by a power which is supplying the means in vertex command from a constant true point of steady leverage, by the just supply, as his own statement in Word teaches, of the new milk of Fire and Light from God, mingling for ever with any and all sources of common power, and any distinct incorporations, which for atomic distinctions are to work contrasts from the size and conditions of globes to those of animalculæ, as all of one final generic, fitted up

for motion, without clash or entanglement in harmony. The heaven moving in currents throughout also.

The primary law of nature, for its first rule to order, resulting in restraint, or against motion when touch is attained by equal solids, and being universally embedded in every atom for steadfastness in covenant consistency, it follows that in any circle of such atoms, that law, in form-giving action, could only develop the circle, or horizontal level, and there rest—hence the necessary means of constant motion must be also “form-breaking,” from the true circle to the line of an irregular or curved circle in continuance, with a restraint rule for the measure of the mouth or gap, forced in the circle from below and supplied between the force coming, and the force within, striving to hold its own, yet by suction on it moving. Now as all simple abstract, or mental properties the Creator is carrying through the creation, such as chemical force and fixation, would be in confusion, however many and well united for each other, unless their mutual velocity of action was made a law of equal ratios also. Time ratio must be as much an abstract law having its just unit submission to all the substance in all its properties, as well as any other, it being the proportion in the velocities of powers in one mass to coerce others. Hence while the simple legal force of a mass of light atoms with the penetrating fire, floating measures—and fixation frost, or rest power, acting from without on a heavier opaque mass—must by mutual attraction reach the centre, and by pressure from all round form some sort of circle—such a body is prevented from becoming a pure sphere by the need of the continuance of this circle-breaking, and motion-commanding solidity of the stream, and so the wheels of nature must all

have the elliptical body ;—and then as the same force and its laws are constant in the universe, when many wheels are made in various divisional expansions of the matter to sweep in circles around a commanding centre, the form of their motions must be constant to the same law of form, and time ratios of chemistry and impulse in the motions which made their bodies, they being developed by the laws of forces over motion, so that Kepler's first and second laws are understood in their cause as the result of the constant arrival to all nature from above and all its parts within, of its force of motion and supply of food in solid light, the fire developing milk of its nature, and need of all through an expansion of old solid daybreak from on high. But as the time-law given, its force must be, as described, in submission to the generic rule, both for solution, motion, and fixation of that unity ; then the chemical fusee force, and the chemical frost, or inertia-restoring force, must be in exact equality *in and between the parts* of the universe, as to the whole ratio in each attribute, and have the same perfect time relations and gains on the rise, under the whole of the laws of justice or gravity, for ever. Thus, as one law at work is of distance from the centre by expansion in atomic refinement, yet elliptically varied by vein and mass distinctions, all ordered on the same just laws of true ratios, the chemical force and chemical sympathies of all the variations in matter must be worked as one perfect sum of an ever increasing testimony in accuracy, but with unchanging circular full times, and then, under these laws so demanding omnipotence in every respect, the form of a globe will not be a pure geometric ellipse, (except as by the circle of its property apse times at work within,) the form of its sweep will be the same as astronomy

proves, and the rise and fall between the time-law of greatest and least distance, which also is a part of the result of the form of flight, must be also of that time justice with the motions of the body in its diurnal action, on its own distance from the centre or semi-diameter, and the motions of the body around its main centre in the ruling medium over all, although the ellipse over or under close in distance at the apse. Days and years actually ruled by the forces at work as unchangeable for ever. Then, as rise and fall will be subject, in that atmosphere, to the same law of its pressure-force on the vital thread, within and without, so also are its forces of time-order in action; the velocity of the body through the medium will be greater when the globe is nearest its force of fountain-action, and less when further. Why? Evidently because the rule of greater impact through the ether, by its first greater condensation at a lower point on the central body, is met by the equal ratio of more forcible and rapid time-receipt of the vital thread, which such greater ethereal pressure obtains through a lesser column of the ether, for a sinking globe; and then, as the chemical and all other properties at work must have their lines of greater and lesser relapse from one to the other, the point and time arrives, when either the scale of divergence changes internally by excess of excitement of the lightening and motional forces, or the opposites, so that the two apsis' turns are justly, and in accordance with all observation on facts and mundane experiment, accounted for eternally to law. Thus, Kepler's second law, that the radius vector of a planet passes over equal spaces in equal times, the Mosaic system fully accounts for, making the fundamental laws of natural physics—its *Principia*—perfectly clear, and just, and rational,

fully accounting for the just geometric action of all the stars, and demonstrating the causes of its perfection to mathematical ratios; so glorifying God the worker.

The law of substantial perfection in the finite, for a law of constant vitality, is represented in the universe as of steadiness by opposition, or a rule for the cross of love, or opposition in elements made to work the good. Matter opening for matter, and thirsting for it all around, receives it at a superior condensed point by a curve; and as the innate action on form, by the laws of command within, is of condensation below the measure of expanse occupied under a constant new force from above, the central attracted and chemically embedded ratio for condensation, having command within, involves, that if the universe was one moment left without the outer flood of food, with general subsidence on the centre, would be also particular chemical condensation in a cross, slope, and declining line, so that a gap or mouth would be opening into a fissure of ruin, declaring the hunger within. Hungry men should not seek to starve their globes; for the force of matter, as we have proved, throws the line of superior accumulation of the heat-expanding force of light on a tangent line to that of the cold; as the law of solid resistance to solid entering, or refraction of light, involves this power of surface accumulation, while the rule of attraction is of the abstract straight line through the greater line of solid—hence the afternoon heat and after midnight chill is greater than at the solar full height, and its antipodes; and thus the time-law at work with all other properties decides thereby the hour of a globe's most open, or most closed mouth-readiness to receive its food, by gravitating or night-cold-fissure contraction; and as that

sort of body is not allowed any complete physical rest, but must float on a constant circle, yet its contraction to frost gasp must be greatest near the morning on any part; and it is well known that light then has a particularly active and beneficent power on the air and every body within it. The law applies to the universe as a whole, and in all its parts.

The two polar axis—Latitude as of the cold, and Longitude as of heat-supply—and the exactitude on which all changes in globes are so varied, thus perfectly prove the corpuscularity of light and ether as the mixed food in vortex drift to the globes of heaven. The universe alone being supported by material light unmixed from God; just addition never altering the final ratios on forces. By having this variation for its line of changes across the line of latitude, as a result of the character of the universal support to solidity, chemistry, in the line of longitude for its greatest power of expansion and living mass, not only shews how life in divine grace is superior to death in the general whole, but also where its secret power was to hold and develope the foundations of the everlasting hills, and form the radiating skeleton of the globe, as easily as those of a babe in the womb, or a chick in the egg, by a shoot-line on plutonic solids. Now, had there not been this submission to common solidity and room-claiming and holding in light and ether, with all the mass for inertia in its just ratio, the action of any ideal disembodied property must ruin this power of unity in action, and also of each property upholding a sceptre on its own lines for return, and courteously giving it up in turn on a circle. All abstract properties must work on the pure abstract of the square, for times and places; and so all results must be of *squares in, time falling also to squares in mass, or of*

equal results on the equal distances of all the radii in a circle, and that too from the one main centre, under the claim for inertial increase, unless outwardly disturbed. Hence, no disembodied property could unite in a work, elliptical by other forces, as a fact of right in covenant to natural law, except as miracle, and the pure presence of God.

But day and night, worked by light on a body formed as material fluid, may move on a law of elliptical demonstration, by just returns to the abstract lead of the pure circle, in time, but not spaces, from a centre below, toward condensation and death, or from a centre above all, toward life, or eternal expansion in space, whence comes its power over central fixing heaviest solids.

The advantages we have in our demonstrations on the existence of a general medium are, that while by its law of gravity we find no scale can be obtained which will weigh with steadiness irregular atoms in rest or correct motion on it, and which thereby become a part of its forces on the centre, unless the scale and beam together, as one in junction and distinction for offices belonging to each, have a sufficient rest or means for stability to do *its* work as one whole,* (and thus our scales must rest on the earth,) and while a steam locomotive or pyrotechnic wheel at work is but a thermal scale operation by chemical combustion for the charges, they too must have the dead weight

* One cavil of the day against the value of the Mosaic perfect system, of all the visible universe of matter as fitted to the earth, is said to be the spiral forms seen in the distant nebulae, or the question of the fitness of gravitation for the work; but the dragon fly forms, &c., in earth, prove that gravitation is equal to its work in such a vast system, where the terms of variety are equal to anything in organization, except the strait line and the pure circle, or even pure ellipse in form.

property sufficient below—so also the earth, and all secondaries ; and so the universal centre must now be a rest of this sort, finding the same means of steadiness by the force of universal pressure, which when a scale is not sufficient in steadiness without, we ourselves use by a nail in a sure place, or dead weight lying around over its stand. By these means the sun is intelligently seen to be equal to his work, and yet be the independent centre of a whole, resting on nothing ; as the universe, by the advantage of inertia being its first law of solidity, does on its own centre. Thus the need of a centre developed by the law of attraction, proves, in a finite universe of matter, that resistance to motion must be the first innate law, after corporation, or the substantiality of matter in its "To Be" is given ; both being under constant support by the present energy of God preventing its rolling back to original nothingness again. This whole inertia must be turned against itself by an ever removal of the central point. With a universe so just to true law, true necessity for the finite, and true support from God, we have only to study the abstract laws of mathematical proportions on a simple circle ; as we have proved, that the refraction of solids, throwing such universe off the exact circle through a concave mouth-law on settlements, to develop a convex belly, remedies itself by involving in the changes of night and day, (or just receipt, and just recess, through the stream of food being given only at one constant point,) that all the mass of the universe of mere physical organisms as perfect wheels, or globes, must act equally on each part for its functions, (when made by the organizing perfecting hand of God,) as rise and fall, compression and relief, internal chemical action of every sort, electric and galvanic agencies, life and death ; also (to all second-

aries not placed by organic superiority on a level with the globes of eternal capacity for motion,) instincts moved by climate, &c., &c., will all submit to the laws and properties which God has made sufficient, in number and variation of office, to accomplish on each other one eternal circle, so long as the working means of support against the inertia aiding, solidifying, core-centre-increasing force, of solid on solid, is kept in constant supply for flux.

Hence, as the planets and all stars, with the sun and moon, (the centralized power and final weight of the system,) which light from God works since the astronomic era, all move as unconscious agents in the final one refined medium, dependent for their forces of just return only on the order of their layers and strata for chemical and electric action, (the active agents working leverage in solid changes for their daily and annual circles, on the perfect power of God in their first construction, to be so worked by light in simplicity of use afterward) the motions of those bodies must resolve into a system of ratios, such as these commanding and efficient, and yet most simple means decide. For, however numerous or secret these forces are, which light generates on and through globes, they can all be considered simply as *one* (for leverage on the globe) on *one*, (the centre in solidity for restraint,) commanded by *one* in the force of the thermal stream, and the first as the quotient being found by the proportioning power of *one*, (the float,* impact, and pressure power of the universal medium) which, by junction of all other bodies in it, becomes the pressure and mediating

* If the upturned head attitude of a globe be considered in its passage in space, it will be seen entirely as a great swimming balloon, floating by a screw-propelling motion, looking up to heaven in its day, or atlantic main land-

resister and attracter of all the universe in itself, over its parts, under God by light. Hence, position, by constant motion on all the parts, aided by the just ratio, fitness, and unity of all the properties of chemistry, electricity, &c., mediates the action of all parts on each other, in created circle-working-perfection in all globes; (for God *made* (fitted) them for it;) the action and reaction of all the properties and forces could only continue motion in a system of order, at least up to Adam's day. In studying these laws we are literally enabled to see how truly and correctly God saw it all "good." It is a grand and most blessed acquisition. Time on national forces being actually of the pure square, as man the responsible being needed. Before we consider the ratios on time and distance, let us now look at a few of the common laws on natural physics, as thus traced to the stars.

First, there is pressure—impact—and friction. Pressure is the strait-directer, rest ratio of a body on the centre of gravity; where this exists there is both support for the position, however light, and aid given, in the same ratio, to the pump-power, in the compressed centre, from which the vital stream comes. Hence, where there is due organization of fuzee energy, the ratio of need is fully met by a ratio of supply. But observe, only by new supply to constant fluidity from without, to all; as the force of this pressure, out of which supply from the centre must come, is and must be ordered as *one* adding to the unit energy of the centre, toward fixation, if left to its own mass. Water, to be kept in motion, or even kept from forming cold, chemical

dividing period, and turning on its belly at night, *i.e.*, on the Pacific ocean period. So perfect is the type on times. *Yet each get day and night.*

sediments, centralized, must have force from without in constancy over it. So all the changes of chemistry involve, within any whole, the abiding settlement and fixation toward the centre of the heaving mass, as a Harton coal pit astronomer truly thought, *i.e.*, if we know nothing of the receipt of a new disturber—light. It is *then* “most rational to so conclude,” because it is the only path of true science, and so the professors of Thermal Dynamics must give up all idea of finding laws in this universe for the existence of motion in a body, which has no additions. Addition is, in fact, the very substance of chemical development for heat on the law of attraction, commonly called gravity, as the law of life in changes on all the properties, gives centralized hold or stability for its finish of power.

Impact is that action of one mass against another which gives to each a claim for ability to displace another, in proportion to superiority of weight, by this force of addition above equilibrium, or its concomitant in life—superiority of motion. Thus, by the law of inertia, a legal claim to hold its place is provided every atom, according to its solidity or atomic weight in a scale of atoms in common prosperity therein; and thus, when motion is generated by the common action of all atoms on the centre, to keep the equilibrium distended, resistance to displacement secures a bridle ratio for the measure of each atom or condensed aggregation of atoms, for their power of motion against each other. Impact then, is universal resistance to motion, in all the mass, as a mutual effort to keep, and give up, as the new rights of place demand under the scale, the new weight-disturbing commands for internal delight.

With these laws, freely and justly admitted for the universe in a corpuscular medium, under corpo-

real light, we can admit the theory that motion must generate heat, and heat motion, in equal ratios within, *i.e.*, the theory we taught in 1860, is confirmed, with, as we prophesied, the new students on light and heat set at work, strengthening our views on Thermal Dynamics, by mechanics; only the chemical action being on a law salient and settling for the solids toward all centres, by chill, and all on the main centre, they must submit to the higher view we proclaimed, that all depends on the universal cry against collapse. O God, keep up our heavenly manna for ever; make more light out of nothing; keep fire alive by *enforced* friction through also; or we all perish. Inanimate physic knows better in its vocal testimony of speech than our most clever philosophers in their books. God's book is the easiest to read.

The astronomers' system would kill her, with all the solids settling down for ever to the centre, without a means of new rise; and the chemists and electricians would upset her means of solidification and rest altogether, by their line of fire results, or turn her into an upright spouting hell, with no constant line, and no power of rest by check whatever. Now with friction generated by impact, itself generated by leverage from the only true place of full command, that is, from a point without, and over all the universe of new matter, (filling up in rotation the universal body on a constant change of face, against the gap opening of certain solidification and side contraction, by exhaustion at the point of most friction) and throughout, we have the set of first laws for astronomic ratios, consistent to all the experiments ever made on thermal dynamical mechanics below, because the lever has a perfect final centre for its fulcrum, kept steady by the just relief and

pressure of all the mass, for its power over all, and each part in particular on new organisms over their centres.

Our next study must be on the introduction of a masterly property which has never been considered at all as a means of aid to the lift, or distance, of such bodies as our planets, and which, like chemistry, light, and the medium for *that* end, we shall have the honour of first introducing to men of science, for a cognate with gravitation, in the working of the astral heavens intelligently on the use of it.*

It has been slightly studied as a mere child's toy on earth, but we trust to exhibit it for stupendous and sublime glory on the work of the heavens. We refer to Magnetic Attraction, as a property generated and supported by light; a mother also of heat and electricity, and thereby used in the distribution of offices in the universe, to aid the sun in supporting his rather lumpy planets, in that refined ether they are needed to have over their surface—gentle and genial agencies, vast velocities, and pristine glory.

We need, therefore, first to state the known facts out of which, as of not in the least hitherto thought

NOTE.—The difficulty of our astronomers to receive the idea, that all motion can only be, and is, supported by the creation of more matter out of nothing, as the fitting good for a hungry and otherwise starving universe, puts us in mind of the Ancient, who said, "Behold, if the Lord would make windows in heaven, might this thing be?" Whether the moderns will see and feed in spirit, as they do in body every day, is with them before God.

* It is not meant here that astronomers have not suggested that electricity and magnetic attraction had *probably* some use above; but they never shewed any just way, rule, or ratio for its use, to any practical astronomic end. A dreamy suggestion is one thing; a testimonial evidence in place is another—as of order for this point of need.

of difficulties, the demand for the especial character, and line of focus superiority, the sublime and most stupendous power of magnetic attraction is needed to meet.

It crushes at once all crude experimental readings, which leave nature dependent on any properties of sufficiency within the existing mass, as they must then be subject to rule on the square root off, without increase on, toward the governing centre, like common gravity, and we shall thus in another complete multiple of evidence, prove who has a claim to teaching the character of centrifugal force—Moses, or his opponents.

The elliptical line of motion a planet makes in space is known to be only virtual, as confined to the geometric idea around an immoveable centre; but as the sun himself is known to be rushing through space in a velocity proportionate to the superiority of his size, and relative organic vigour, at a rate computed to be 422,000 miles per hour, it is evident that the actual lines of the planets, by their motion around him on this tremendous annual course, must be as elliptical scollops cut on their own and each other's lines, on the plane of his orbit.

Now when students of astronomical forces pass over this fact, and add to their blunder on effects on common gravity, (which blunder could possibly allow planets, by sheer velocity, to turn round, outwards, after nearest approach to the sun,) the additional defect of never shewing any means whatever for them to avoid being either left behind when they are one side of him, or rushed into when they are before, which all require for both in turn, it is evident their views must be utterly crude and inefficient, for any Principia on motion whatever, as to heavenly bodies; yet, of what immense

ratio must the obedient forces of the universal medium be to this end.

Attraction is simple planetary instant murder, even with the added agency of a corpuscular sustaining column of any amount of mass in such expanded refinement, with the endowment also, of light with gravitation, as a refined solid, ever preserving the pump action, however, within its reach it was to form, move, and develope the earth, to the end of the third day; and so must fail in this demand to handle the forces of the heavenly calling in astral energies, and keep stars and planets in order around the great solar attracter. The immensity of weight the planets especially have over the same diameter of the medium, demand this other property, which, while it was a perfectly consistent coheir in the first three days, would only be found shining over activities of a very low level, and which but slightly demanded its aid. Of all the creation types, on the superior moral properties God gives through Christ, as the word Creator from the beginning, by the testimony to sacrifice at the cross in Abel and Enoch's day, but which spirit became a shining power of the clearest fulness, and led to the host of martyrdoms after He appeared, magnetic attraction as the result of the fullest work in all the offices of light, is the most awful and sublimely beautiful. We write here, not for silly sceptics, but for men of mind, grace, and mark. Enough to observe here, that magnetic attraction, being a property whereby a small mass can become a magnet of such power that it can draw away its prepared fellow from the old line of natural gravitation or simple solid mass claim, although the new thing be very light comparatively, is peculiarly fitted to represent a *heavenly calling*, perpendicularly outward to the

earthly line of even common true home duties on natural gravity or justice, and may be found so embedded in some parts of the system, by the electric stream developed by attraction on light, as to be equal to any legal measure of upward tendency, so that a disembodied fluid, which has passed through all the sequences of natural forces and properties on cross lines of law, may be conceived such as to rush back on the line of the stream of light arriving from God, and come to his nostril as the perfect incense of fully developed creation law, on a just ratio perceived and understood by Him; there to float with light as a crown of natural glory in solidity, of the matrix holding the property, to the general call of the universe, by attraction. Thus, too, is the brilliancy of the light of the fixed stars in overflow, as the great holders of this property accounted for, as peculiar to the spheres in expansive float, lightness and elective make, as electric lights. It is most magnificent and most wonderful as a fact in type of the great moral witness in the cross of Christ. It applies also legally to the magnetic solid, as the perfect work of creation. Let us consider it in detail.

The Sun is known to be an immense globe, sweeping through space with globes attached, which are very condensed and heavy masses, some of them heavier in proportion to the size than the sun himself; yet in a wonderfully refined medium bearing a low proportion to air, and by a thermal stream of expansion and propulsion, (not at all as powerful as water on a cork ball, from a jet in a basin,) these heavy globes make but a very moderate ellipse in their own apparent annual flight, and that too while they have no buffers, or chains, except this thin ether, and have to keep their just position on the sun, along the directing outer line

ordered by the Milky Way, and encircling fixed stars.*

Now magnetic attraction is, as a law, which can be made by a distinction of materials used in bodies, either an aid to the clasp for the old centre by mass, or to relieve, or even overcome it, the very means required to this end; while it by necessary embodiment in a solid becomes a just co-partner in the race of duties toward the "good," with all the other properties, on condition that its line of action may be, by not being of sheer mass, but elective material, perpendicular to the oldest on motions of attraction, adding to the check-command of inertia, and saliently submissive to the swing of chemical superior power for axial developments on longitude and latitude, or solidifying and fluid-making powers, and must be a just "one" or unit co-efficient in all the body created; this too, including the handle or corporeal weight force of light, from its first existence as from the bosom of God, but subject to its greatest gifts by action and radiation in the work of creation finishings. The simple fact that the solar motion has this tremendous danger of collision, at once throws Newton's *Principia*, as to its theory on natural causes, altogether out for a "true" *Principia*. The perfectness of the geometry on fact—bound as it is to the simple force of the cube-root on the square-root—by a fixed centre, only proves its inefficiency on final causes; because gravitation, awakened and supported by light from

* Let not the student in studying the power by circular disposition of this property, in masses of elective gift, fall into the idea, that the general medium can be done away with, as, however more powerful for the lift in distance magnetic attraction is, as the outer holder's need, the medium at last most of all is the curve divider of this strait line rule, as well as that of light against old gravity by solidity.

without, as an actual means of leverage, could give no account for more than a diurnal motion for the earth, and an inferior annual velocity; just as the heart of a man, or even a heavier swimming solid, which attracted others in a basin of water, could only have the least effect on time, if the leverage at work on the medium, be the greatest dead-weight against all the forces at work for motion;* but by the aid of an upper globe of such greater expansion and full immensity, as to reduce, as needed, its dead weight in that light ethereal upper part of the medium, and which globe becomes, as the greatest of all elective masses, the especial friend in this law or attraction of the sun; say Alcione—as is probable—and with that globe all the other outer stars equally made of expanded material, in solid arms, and light ether, for their forces, static and hydrostatic, capable of holding the given measure required, and justly divisional among them of the heavenly magnetic property, and then the sun may be legally relieved of nearly all the burden of his planetary difficulty; while the binding the property of chemical elasticity, like all others, to the rule of embodiment in solids, by inertia under common attraction, and making it also in the universe, as a whole, a full unit with the power of any other property, the laws of diversity in unity are found perfectly equal to all the labour actually known by observa-

* And yet that Newton's Problems do meet the practical need of astronomic enquiry also proves, that however thrown out of the line of a pure circle, or ellipse, the parts are,—attraction on inertia, or addition in one unity, over the given sum, for leverage, is a truth for the universe; by solidity, having as of weight the first command over it, commanded by a bodily stream. Spaces and sweeps being altered, but not times.

tion to be done above. It accounts for the immense size and brilliancy of the outer stars.

A very simple consideration on what practical experiment has proved, as the means to the development and support of this property, will suffice us here.

First, it is known to be equal, unlike any other property in nature, to be able to draw on the perpendicular up against the perpendicular fall, by original attraction, in increase only of the elective matter. For, as before seen, chemical action and common attraction are both subject to refraction, or operation on salient lines; because of matter, however refined, being able to resist the straight line of matter, by attraction. So chemical cohesion can only build solids on the law that the base must be heavier than the top. Its rule is for the pyramid; and if any added magnetic force be in the same centre, the force of refraction would only be added too from above, or mediated within. Thus, the circle-working aid of magnetic attraction is secured on the common law of solidification in matter. But like common attraction, its line of intention is a straight line, but necessarily bound to chemical cohesion with gravitation, and would be useless if it was not subject to advantage by embodiment in masses of peculiarity over that of attraction by sheer mass, in the most dense centre. Thus, in globes it can be by an organic gift embedded and supported by sympathies in light.

The peculiarity distinguishing these masses is known to fit them for giving double powerful forces of chemical cohesion, which, while it is only a sister property under light, are always doubly operative where light is engrafting magnetic attraction. But further, for this force in suitability for its function as of the material required for the solid centres and

arms of the fixed stars, with all the cognate conditions of the fluids; it gives a great advantage in viscosity, and that of a species peculiarly fitted for elasticity, as well as rapid emission of luminosity.

Yet it is certain that bodies, such as a diamond, may be very hard or cohesively bound together in their own masses, and yet the magnetic power be greater in bodies not so perfect under chemical cohesion, and of more readiness for chemical fusion and friction, while the latter are very elastic and tenaciously fitted for resisting motion. This proves therefore, that chemical adhesion is as distinct in law as a property, from electricity and magnetism, as it is from simple cohesion by attraction, however useful to all in their varied sympathies and constant to a fellowship aid with them. It is a type of Hope aiding unity in a double. Now the quality of all materials for magnetic attraction is known to be kept up after their selection or gift of it, by the sympathy they have for electricity, and its supply in a forced circle of constant rotation. And electricity is kept up by the operation of matter as mass, in its decomposition of light, and the current direction given it, in advantage of the legal sympathies in law of like for like, ever increasing with the increase of the universe in time under feeding from God. Electricity or that style of the interior current concentrated power of light, ever separates the various materials, gives them their new form and sympathies of aggregation; and as mass is the first law by draft on light, the expanded measure of the material required in the solid arms and axis, and the refined character of the fluids, required by fixed stars for their station, does not hinder the required draft of force, because all bodies in the medium draw according to their whole mass, and develope the functions of that stream

according to the whole pressure of the mass, by common submission to the old first law, with the advantage of all the superior sympathies needed and found of peculiar character under light. Thus, among men, mere numbers or mass is an attraction, but elective persons are more acceptable by hope of rise. Now the fixed stars were made to fit the earth, as well as the sun and other planets, after the earth had been under the electric-conducting, and magnetopile-developing forces of light three magnificent native Eons, as we know geology proves, with good reading in the Mosaic account.

Thus, again, for a globe to be developed like man, its owner, from a fluid nucleus in a womb under light for even its form, we prove the need that these vast Eons geology declares, and Scripture justifies the belief in, should have been really allowed her in her maiden school of girlhood. In the study of this point respecting the need of magnetic attraction, under mechanical organization of the solids possessing it, for the especial use of fixed stars (so called) a point not before noted, must come in here respecting the character of a true medium, or perfect heaven, adding to the evidence on the beauty of the Mosaic philology.

For although the ocean is a fluid mass encircling the earth, and a perfect balance for the mathematical radius of the ellipse in her form, yet being subject to the check of solids above, it is like a scale which

NOTE.—The position of the fixed stars secures them the first and last action of light, toward and from the sun, except the heaven's claim over all, and also the interior action of the grosser planets in attracting and softening off from the outer flow the grosser matters of the more solid centre, so that the action on them in the abstract, must be that of the most powerful and final secret properties latent in the natural covenant of physica.

is liable to regular touch on the beam or rocks. But the final true substances of air and ether, while retaining their chemical forces of formation, retention of location, and just weight, are perfect circle-surrounding volumes, and therefore quite perfect as scales, but more light by necessity in proportion to the floating solids in diametric volume, (and however immense the volume for the perfect command on the common gravity rule, as before taught, and thus equal to their work of dividing any globes when the whole volume is disturbed,) yet the great loss of body in the same space, as solidity for leverage, would involve tremendously sharp angles and length in the annual ellipse, unless the aid of magnetic attraction outside came in to make up this result of planetary lumpiness.* In fact, globes would fall nearer the sun at one apsis than comets, i.e., by greater mass, but for election in make from the first. The universe as one whole, being considered as one body under the common law of contraction and expansion on one centre, by internal attraction in preponderance, made also a pump law of centrifugal force, giving power to all its atoms, large or small, under light from without, will now be seen as a constant floating and moving body, having no fulcrum but its own for an annual motion, but only for a slow measure of procession on its own axis, through the gentle breeze-force of light from without and attraction of all within in its own back, and thus it will have a very

* The exceeding lightness of either heavenly medium, by this very beauty for a scale beam, proves the absolute necessity of an exterior stream of draft toward the centre, for the only means to force them to renewal returns for restored circulation, as otherwise the force of gravity is of the constant pressure, which sent them outside to keep them there. The objective force to all equilibrium must come from outside as eternal addition.

long diurnal motion without a night, but only of the gentle divergence of shadows under convection in ether, as from an evening and morning on all its equatorial regulations. Thus we trace the synoptical character of God's days, (so called heretofore) in the creation, subject to a *de facto, et de jure* spirit of justice for such a mode of statement, as Moses declares divine. It is the tradewind follow-and-check law on final atoms above. Thus, with superior solidity and grandeur of mass in the solar centre, which thereby represents, as the master in the law of attraction, or nature seeking its kind to meet, kiss and follow, that orb represents the central character of God, in personal love proved by covenant truth toward the creature, while maintaining strict righteousness toward his own divine abstract glory, on the cross lines of finite responsibility in man. The earth represents with the planets, the old and new unities of time around the solar Lord Jesus, and the exterior fixed stars the superior abstract claims, of every fixed principle on which true love, by reason in law must work all below in God, and Alcione the especial one of mercy, as the chief attraction and axial governor with the sweet influences of joy and hope, on the path of the sun and his planets; attraction all round toward space, the spirit of prayer and loyal hope, for the food (over the concave gap of death) toward God. With magnetic attraction embedded, by virtue of especial, or, as we might say—like martyrs, gifted in superior attributes—not only of the lower system, but as ministering lights under God, and giving to the force of each the variety required for the rotation of all climates the changes in years under the sun, and on the whole universe, the ratio, one, with attraction by mass, and chemical cohesion, &c. We may now, with some power, proceed

to consider Kepler's Third Law, in hope, to find its just causes on the known ratios of time and distance.

As every astronomer and mathematician will see, we have the perfectly sufficient means to support the heavier stars we call planets, in their ellipse, wherein, while the ratios of mass may be calculated by the forces exercised in perturbations on each other, the same as if that was the only law, the refinement of the medium is found to be also no difficulty to the distances and reduced measure of that annual form; while the co-requisition for it of a mass by expanse, equal to the leverage demanded as a whole, will at once account for the sustained velocity of the planets, which could not have been, if, with their weight it had to be accomplished by a fluid leverage, in rule of sufficient mass alone; as, if the land raised over the horizon required terrible plutonic aid, with the pressure of all the waters on the centre for a short time, and then must be allowed to cool, what must the terrific force of constant heat on the constant density of the fluids be, which could make a solid planet rise and float through it, while the density of its fuse would cause a cloud-land of terrible darkness, and rolling waves of waters and fire for ever—no serenity. We also see why the synopsis of God calls all the stars by one common name; they being of one generic only as helpers of each other. Magnetic attraction

NOTE.—Authors on natural forces, sometimes represent the equatorial and polar action of rise and eddy fall, in our upper fluids by curve lines from the equatorial regions, upward on to the poles and back below. This, true as a general principle, is broken in facts, but why? only because the body is not a mere extension of matter but a chemically distinct and beforehand prepared nucleus. So if the upper medium was not also an early creation by fiat, all the comets must tail on in one united stream like said diagrams.

delivers us from all these difficulties, and gives us the sufficient support of a quiet grace property, for the perfect finish of the line of beauty in motion—sphere and order. By the rule, in very slow motions of a body, as solid, central, and independent, under the refraction of light with the leverage only over it of the heavenly atoms, we can see, and shall more fully, the effect of the united action of the properties used by God in matter, as those fit to work the full circle, so that we can understand how fitly the full rotation of the heaven, drawn like our air now is, along the motion of the solid, must decide the length of one of the grand Eons, as a day, without means to a co-relative year, because the law for the use of a lever is a slip motion between the body moved and the body backing up the lever—the fulcrum it acts on—so that both must move on the same route under new light, and as this, by the law of attraction, centralizing this lever—light, is the ratio of gravitation between the full power of that heaven under that lever to make a complete rotation, and the ratio which demands the use of all the forces with their full equality, or ratios for the largest outer circle, where these properties in mass are so really embedded, that one rotation of the heaven in the first day must have secured the complete solution of the mass unformed and void, to become vivified and full with all the mechanical perfections of an axis and equatorial belt, and which all the properties of physics are equal to continue by light. Thus, the law for God's days (so called) are made on true principles of covenant with the laws of the creation, as over them, and by them. The same perfect science will apply to each of these days of largest law; although in the first and second, as employed in singular evolutions on the solid, it

is most easily followed as all first lessons should be. The rapid convection of light as observed from space outside the heaven, shews how different the light must enlighten the surface observed by the eye divine, compared with that on the surface of the solid earth within it. Thus, the day time would by the condensation of light toward the centre, be equally fitted for God's and man's position of notice as day time; but as the mouth-line of superior swallow, once struck in the solid, could not alter, the earth and her heaven must turn (and so of creation as a whole now from the solar main gut of conduction of heat) the back part to God's hand in the rotation until the restoration by full rotation of both as acting and re-acting on each other, the slower heavenly circle had made a complete circle of actions on that of laws. The shade of the half portion, or back of the universal phase, is mentioned here, as it is of the greatest contrast in the rotation before God. As it started from darkness under light, so it could only begin as from eve, and the end was of a bright full dawn of morn to that past away, and the eve of another. Oh, wondrous dictation, and perfect law of the Good!

The reader will understand these observations on the introduction and proper use of magnetic attraction, as an inwrought sustainable property in matters of peculiar chemical characteristics, fitting them for the solids of very light, and therefore tremendously expansive globes to support the earth and other planets around the sun, so that in such a refined medium for luminosity, below even the earth's denser atmosphere, their elliptical angles should be reduced to the pure minimum of mass on mass, as if on a still centre and more equalized mass force of the medium at slower paces.

I do not write as a practical electrician. My business, from the nature of my title and object, only requires that the statements are sufficiently accurate on the fundamental principles of the properties, electricity, magnetism, and chemical cohesion and conduction, so as to shew that the means are sufficient and suitable under the perfect hand of God, and true, so far, to the tests of human experiment. The line of ratio for the greater and lesser forces of the fixed stars in mass, as below the sun's of sinkage central density, and greater in magnetic attraction by exterior multiplication around is all I require. On that no scientific controversy has room for objection here.

The evidence also now adduced to the element of the time law of the greater universal Day, takes away all right to talk about God's days, as though the eternity of his being could be measured; and only justifies the idea in a conventional sense. Moses does not say God in six of *his* days nor six of man's days, made the earth, and all that therein is, but still in six days as real, marked, generic periods to natural law in the thing spoken of; thus, even the claimants for the correct use of the term, *seriatim et literatim*, may be so far satisfied; for while it is certain other globes have diurnal motions as well as the earth, and the sun was to govern the earth's after he was made, (which must be done on his, as the master-piece of the thermal machinery of all,) it is evident that the term may be literal to a diurnal motion of some time-order, seen on the works referred to when not divided, as in the first use of it to the daylight part only, and it applies perfectly in each case to the daylight presentation on the part at each end, to the eye of the beholder above. But as man inhabits all parts of our rotation, no true guide

would otherwise exist as from point to point for this use, except as it arose from correct description from fact, and no other is real for final time but that of the return to the full mathematical rotation of all the mass existing in the age under the full solution of all the properties on their lines of refractive relation, until it relapses into the enlarged dominion of those of the first start again, and that would be that part in the *outer heaven* above all, (or it comes to it as the upper lever first,) whence light first struck the mouth vein of chemical advantage in time and from which the points of the axis and equator must be ordered, as described in the earlier parts of this work, for the earth within. All heavens like trade winds must finally follow the circle of the centres under the force of attraction and motion under light.

Having now all our powers right, so as to be justly at liberty to understand that the annual times and distances of the planets are efficiently successful to known facts by proper obedience to the rules of natural generation, as Moses sums all up at the end of the synopsis, (GEN. ii. 1 and 4.) so that the mathematical ratio of all the properties of matter, (embedded in different divisions of a solid in distinctions of density,) is equal to the work on an ellipse by laws of "passing away" to naught of the

NOTE.—The term *day* mostly appears, however varied the length or cause, to be confined to a period of certain light-shining clearness. Thus, "The Day of the Lord" when the Lord was, or will, manifestly be shining in daylight power. While the reign of the Gentiles being a time of moral darkness to the claims of the true light, is called the *Times* of the Gentiles. Daniel's prophecies shew it all gloom and of the night order. Therefore the coming of the Messiah to reign as a kingly worthy, over all, will be The *Day* of the Lord. Perfect use of God's laws for kings never yet having been fulfilled to prove their perfect value in results as *Day* men.

divergence in rotation, *i.e.*, of the pure circle virtually—we may turn to a diagram of circles to estimate further the causes and the results.

In our diagram we have a central circle surrounding S, as for the solar—around it other circles with planetary globes, with their centres for the planes of the orbit.

But as astronomy is measured on the rule of the pure circle, which gives no importance to the body of globes, but only the centres, so far as distances and annual times are concerned, we need pay no attention to our globes, except as for the planes of their orbits on the greater circle and one centre in real ellipsis.

Now the very first rule we have in studying a circle and its just divisions on the base of the distance, or semi-diameter, is, that six distances is the only measure, on that base law of depth to the vivified heart, where heat by draft at first, and pressure after must work projectile force, which will proportion the solid pressure and solid weight of a sphere on its working circle—no other base root ratio can be found in geometry. And half is against half, or 1 diameter is by 2 from any point of light on attraction for forces on central valve pressures. Now if we use time and distance together to measure the power of a mass of matter by action in itself for all its force together, (and that rule is a final one on the legitimacy of natural physics, and not being made to do a thing miraculously by all scientific admission,) we shall soon have our demonstration, whether light new from without is needed, as the only efficient means to a perfect convex ellipse in a planet, or even whether the horizontal line on a single body can be maintained by any other means, *i.e.*, proving no body / on the laws of astronomic circles can be an efficient

machine to its end by light, heat, electricity, or any or all its attained powers together, for the support of the constant distance of a true circular horizon, or motion by a centre. We have divided our distances S A—S B for two planets or any other globes into 8 and 12 parts; let them represent stages or miles, and we measure the forces to make the first rise and the circle by a time metre. Take S B the greater, the ratio being the same for any circle. For if the power in a man, or steam engine, was such that in 12 hours the centre, 12 miles to B were accomplished, and if he got that power by all the forces in the universe comprehended on S within him in, but subject at A and B to loss by radiation, and of the circle H B to assist him, as a planet must, or any added force of the pure solid acting by the known rule for a plane circle to reduce the measurements to simple time on an equatorial, or belly waist-belt of hold and loss—from outside—so long as it was of the law of a solid on a centre, no force could enable the man on arriving at B to preserve one section of any correct curve whatever; he must submit to the subsidence law of crystals, so the time and mass ratio cannot be equals. The rule of his power is the rule of all properties, separately, and of all as one property for motion of one mass, body, or person, i.e., of the square for the times and distances on the base fact wholly and only as in the body. Now this fact Newton for gravitation,—Herschell for light,—Tyndal for heat,—Faraday for electricity,—Brunel for mechanics,—*et genus omnia*, are all obliged to work by and submit to, as the foundation law of all the immaterial property powers of nature, and why? but because the force of immaterial properties have no circular swell leverage of solid over solid and cannot work without the law of

the universal mass extant as a body under material force and be that mass what it may, above and below together, as our different circles shew, still the whole power, generative, (if once generated at all and then left without continuing support from another fount of fluid supply) can only gain an outer point and there stiffen to an angular solid, as flats and sharps, which supposing, as in our crystals, the matrix be of equal consistency, will be a hexagon on the main line, or equatorial belt, which, for a double polarized body, would present the royal second number of 12 sides. But this hexagon ratio is weight force on weight without room, by law to move at all. And why is this? but because the internal rule over propulsion, must arrange, firstly, by the square on all the proportions of one circle, as pressure against motion equal to pressure for motion as a solid on its own centre and substance alone. As attraction, on motion toward the centre, can only give the concave form, like in a heap of wheat falling through a hole in a floor, and then must choke at the centre, without new leverage from above the *whole* body, so the convex form in lines of motion, and bodily forms, can only be preserved by a power from without, above, through all, under radiating *overflow*. Without this the cubic ratio of action through must fall short. When this force is found, although the time-ratio of action for all the body on the solids from point to point, is to be reckoned by the square root; and will thus have for the diurnal motion of all globes, on the proportions of that root for the lines

NOTE.—Solid over solid is here, as often, used scientifically, as meaning any substance of weight on another, however divergent in density. Air, ether, and all being solids in leverage usefulness over motion by the weight of the whole mass united. All being space occupiers in bodily demand of exclusive ownership of their required position.

on the semi-diameter or distance, or the cubic ratio of their masses as spheres the proportion to the forces fixed up in them, as organic solids, so the subtle law of nature, in the first introduction of the square root of all times on the cube roots of all distances, is found in the form giving and sustaining actions of the means of support to the convex constancy of the ocean horizon, on the measure of each part circularly, *i.e.*, the actual propulsive force, from the centre of a living and sustained thread of radiating matter on the body itself; and if the slip law of the times in our fluids, checked and rechecked, as they are between the upraised solids, was considered, it would be found, that the foundation law of nature, that fluids shall move solids, as the centrifugal force, peculiar, while they are drawn, held, and checked by solids on solids as the centripetal force peculiar, (all being centrifugal as in constant motion by unity,) Kepler's third law was the key to the whole force of nature, as establishing a means under a rule of superior advantage toward the centre for the centripetal force, and the centrifugal (by concentrated valvular energy there also) with the radiating sheath loss of power in both, as departure is made from the central heart of a globe, and of globes over the globe, which is the heart over all hearts, in the love and freedom power of law, by

NOTE.—Every man of science knows that the apparent stillness of the earth, when it is made the inertial back figure against the leverage on a cannon, is not perfect but that the earth vibrates with the least motion of any body on it. But the fact, that when a fluid mass, as our air, is made the backing power over solids, that it still, as in the trade winds, follows, proves again that the interior forces of any mass are not equal, as attraction has a superiority in aid of inertia over equal reactions for motion, thus, made alive to follow and gain the equality.

both solidity and fluidity in matter, with all other properties under the same rule. Thus it is, that as globes raised into a medium like our air, and like ships on reactionary tides between solids, but equal also to flotation free all round the scale of natural properties and forces, have perfectly developed on them, the last and first laws of natural ratios for power in motion, in a constant medium of constant currents with them, the globe that rises outside its fellow must lose the power of keeping pace with it like the points of a solid sustained in the circle to the means for the square on the times and mass measure; for, as compared with others, it has to depend on the force of its claims, as given by its mass in suction power, its condensative power, and chemical velocity in solution of the stream so sucked in, and the radiating loss of power in the exterior third on the cubic ratio of the last of three forces, i.e., the loss of pressure power and density by relief-rise in the balancing medium. Thus, instead of nature being equal to the square of the times on a circle by the square of the distance, which is only attainable in parts or distinct bodies as solids cohesive, like clock arms, in advantage over other parts of all matter, she is by her dependence on sustained leverage, in the common trough, and guidance of matter on matter, obliged to allow the geometric facts to be perceived in her system for her largest, floating, organized solids, so that what they gain in distance, they must, on the radii of their circles, lose in the proportionate velocity of their completing the circle for the same point over the circle, which the obedience (notwithstanding all the relative motions of the fixed stars to the solar centre) make them a means to measure in the times.

Thus, we prove by Kepler's law, while we explain

its cause, for the cube of the distances being by the square of the times for planets on each others motions, why a circle as being over any square of its distance, must have force from without to sustain it. For the roots would be the same of the outer atoms of any circle; for instance, this earth's before her mountains were raised; as those over all the surface were fluid, to any depth; so fluids, in equal radii round, are compared on each other. Fixation of her land now gives her times like the hands of a clock on solid points. The rule of Kepler "that the periodic times of two planets are proportional to the square roots of the cubes of the longest diameter" or "the squares of the times as the cubes of the mean distances" is simply the rule of all solids, birds for instance, as to final laws, but free to move by an internal force of propulsion competitively through an equally free and full scale medium of small atomic solids.* It is therefore the same rule our military engineers calculate various velocities and distances by, under various forces when sent through the air. Why? but because all properties, however the Creator

NOTE.—While the beautiful aid of great magnetic attractors is found for the sun to raise globes and move them so near the pure circle, as the planets are, and in so refined a fluid it could only be so done, yet the value of this refinement in the ether secures the numerous velocities in space, so that the impulse ratio is not impaired in its value in the least. Speed securing the required under resistance for convexity under impact.

* When astronomers want the solid power of globes, comparatively, they obtain the magnitude in gravitation, or pressure, by dividing the cubes of the diameters. God, by dividing matter into two spheres the solid and the surrounding medium has provided this double on the one centre, and so, the times of the planets are on the same rule the cubes of the diameter for loss of flight-force, i.e., loss of solid pressure power in the medium cubic being by solidity.

may in nature have varied their concentration in points can only have such concentration by embodiment in matter, space having no power except to offer its occupancy, and give greater scope to the actual leverage of matter under its first law, inertia, for a back law of restraint, and a forward law of push whether more or less chemically united, or even more or less potent in electricity and magnetic attraction—leverage, from the true point of greatest force for the lever, that is outside from above, through, under, and across all, is the first law of nature by solidity in or over all.

Force, therefore, so generated, can never move a body as a whole, except as it can move all at once by the centre for the check resistance and draft. Hence, when it is chemically developed, it must gain that or some heavier centre, and from thence as living weight it commands all. So that motion is calculated from this point of full command, and this fact has blinded our physicists. From thence its force is 1, *i.e.*, from the centre of all power by mass contraction; 6, round—making the life gain of daylight power—and then if that cannot be kept from the womb of first nature, it resolves into the last law of sinking by gravitation in recoil to the 8th for the full work, whence no deliverance comes, except by full atomic fiery sulphurous destruction of all that system as torn by radiating attraction re-awakened under light of the outward on the inward for a constant hope of resurrection. The example of Kepler's law is easily found on our diagram. It is only first, to consider it as one body with all the other bodies held under attraction to the centre, and the force moving it, on the solid root of force in all the mass, as one in hold on the other, by an outward force equal to full healthy circulation, which

is always by surface circular addition in radiation, through and above the attained circle moved ; and while it is evident that leverage must be greater by whole outer weight, the exact weight or force of inertia against the motion, in the body seen, would be calculable on all parts of its own face by the cube of the mass for the decrease of the times—unto transfixation in fact. Then admit, that to avoid the tremendous circular incumbrance of this vast weight, the Almighty has introduced an outer side weight of light matter, which has power to quicken all the mass to active seeking to regain equilibrium, with many properties of such diversity in action and fitness for union, that the body is disturbed throughout on its own centre, and that our smaller globes are bodies, having organically incorporated in them, a minor rotation and measure of the same force of various circle-working properties, while suspended in, and floating through, a very light division of the whole, which forms a circle of the same attributes around a main globe, of the same nature as the first, and evidently, the smaller globes *must* circulate around the major by draft on him, in the commanding means of height and way, and the ratios of their powers when compared on each other's, must be of the same for the velocity in all the circuits on the distance, as the rule for their own gradual loss of speed in the rise on that line—which, as by refraction they are obliged to shew, is in the extension or decrease from the two apsis, a rising curve or convex one, proving the law of solids on solids, and that the same force, in its just ratio, determines the number of rotations each must make at that height, or force for motion, in the measure of proportion by their diameters or bodily pressures ; a fact of the highest importance, which astronomers

have had no idea of, and so by not knowing globes are organic parts of an isothermal piece of mechanics have been depending on spots seen by the aid of optical instruments, instead of mathematical ratios in chemistry for their diurnal times. The slowness in annual time by the superior rise of any planet, must necessarily be by the increase of the sweep radiatory, from the main centre, and this must be true of all stars, all systems being only planetary to it; proving the sun is the heart-pool of concentrated life of all the universe, so that it is on a true law of thermal dynamics the Psalmist said,

His going forth is from the end of Heaven,
And his circuits unto the ends of it,
And there is nothing hid from the heat thereon.

All the circulations of the fixed stars, in all their systems, however aided by first draft in light, or peculiarly fixed on distant centralizations as moons or suns, as moons of planets are, (they being necessarily lighter bodies for their sphere and work, as conducts over our system, and the dynamical force of light, being only to be ordered in supremacy by mass condensation, or a line of ordered chimneys, under his weight and radiating force by it,) must have the universal central hold to order and vigour over all by him in all properties adding to check and pressure law. The loss of the further planets,

NOTE.—The definition I find military engineers have for inertia, in a work recently lent me by a Captain in the Army, is "INERTIA.—A property of matter by which it cannot of itself put itself in motion, or if in motion, has no power within itself to alter the direction or magnitude of its motion a body cannot produce action on itself." Now if it cannot produce it or alter its first strait line how could planets keep it up or the universe give it to itself or keep it up or give any curve to the line of the stars? Why have philosophers lost sight of known principles for either mass?

by a free race as the runners around a centre of free life, must leave the cube of the distance for the comparison on annual times, (times being necessarily always on the square by being of impact or the distance length of the mass, on another length of the circle's mass for removals on that circle,) and thus become subject for the next law of measurement, because outside 3 or the base of the cube-root multiple, no regular and established law of motion for the sphere can exist. There is no other in mathematics for the circle on the diameter, *i.e.*, the angle, but of solids, (although not equally solid together,) for all the universe must be kept, (if inertia, gravity, chemical cohesion, and magnetic attraction, as the quadrilateral of dynamical rule within against motional properties to order, are any of them to exist as rational properties at all,) a solid co-worker with and over itself for its ratios of the pure circle. The cube and square as roots for all. Dr. Tyndal's reserved force will not do here, however useful and truthful within that circle and need. It must lose its regular power over one chimney line for stars and all. While the absurd idea, that dead solids falling in jerks of momentary action to conserve the solar heat, can be of any aid to the perfect regularity of the planets, is only a proof what shifts our theorists are driven to, rather than learn science at the feet of the venerable and inspired sage of Mount Sinai. If such events occur,

NOTE.—In fact, the squares of the times on the distances must be the ratios when compared parts are held in chemical cohesion as each one solid, and the cubes of the semi-diameter when they float as separate bodies in the general mass, under any regulating medium, the ocean, for instance, as the rule for the densities and powers of ships. The force of distance being a worked thread of all the mass in vortex draft from an expanding circle.

the planets require some means, by their superior mastery over irregularities in existing physics, to restore the compensations so needed, and to avoid a fall of smuts from the universal surface. And certainly dead solids and sweats on men's backs do not improve by the thump of a fall the isothermal linear conductions within for a healthy circulation, in a well-ordered day's or year's work. In the planets this is easily affected by the rule of reactions on the draft of the force—light. The convex lines of all well-ordered motions, are now accounted for, as sustained over all the attraction of mass, to the concave from below; because, by light drawn from without, concentrated, and forced off from the centre, the breeze of life is then outward, and the force of it is proved to be by a law of supply the Creator has fixed to his covenant in physics of overflow for ever, all around every body, and all the universe, as we personally feel the law in the sweats of gentle insensible perspiration. Let the universe be supposed otherwise kept in health, and she becomes a *lusus naturæ* on her skin, to suit the notions of philosophers, like the poor child whose pores were stopped unto death by desire, to make it a gilded likeness of Christ at Rome. Regular certain exhaustion of all to the surface as fluid is the only means of full healthy circulation for any mass on itself. The cube is known by all mathematicians to be the rule of simple mass force on a centre for the comparison in all solids in simple solidity, and its superficialities. A loss of power in velocity for annual circles in the old rule of the superficial power seen in the belt, or equinoxial line, from the square root to the cube root, for the lines on the distance, must therefore be a loss by a law made in the sphere by the spherical ruler of the motion, on bodies in all

directions at once, as a rule common to solids over solids by inferiority owned in the ruling part, on the force in distance. Hence, *if* the Almighty did the work of the annual motion miraculously by the planets in space, He would be still doing it on the same ratio as if He did it by new light and a real medium of ether. And to refuse to admit He does it by that rule, is not only to deny Him the wisdom of doing it in unique consistency of the other parts of his ways and means in physics, but also to make his word in Revelation about it a lie, when it declares, before he raised a heaven in the second day, that He also made one of priority in use around the earth's nucleus on the first, and then caused light to flow to fill a void body within it. We wish our opponents may see their fixation. Even in human hands, bodies, worked by dynamics of the cold order of heaviest weight in the centre, are useful only by unwindings of the force, *i.e.*, working backward, and they only attain to the proficiency of moving bodies forward, when they submit to the use of thermal real dynamics, with loss in supply by radiation, a boiler hollow of fluid within, and a right hand first turn to decide where the runaway engine shall traverse. But I am not aware they ever could find friction a sufficient force to generate all the heat without the aid of the poor organic horses and bullocks, &c., over

NOTE.—I bid defiance to all experimentalists to find one evidence, that motion can be obtained, or sustained, unless the mass making the motion on another, or the mass preserved in motion, has for its means of motion a flowing inorganic part it cannot retain, but doubly exhaustive; first, by chemical cohesion to keep weight, and finally of throwing beyond the personalities' space of present occupancy. For the force to preserve weight on a convex line must have this ratio of a constant overflow of matter *into universal use, by universal law, to the whole outside.*

all matter, but that the combination in the natural elements of most refined fluids, when acting in antagonism of ordered natures, produced by expansions in destruction of each other, as distinct vesicles, the principle means of motion. *The friction, however, always also aiding the rapidity of exhaustion, under radiation of all the body, on irrecoverable lines of a circle in spite of all means of reservation.* Clocks and watches run backward, steam engines forward, but all must have their means to constant rewinding the circulating medium, by vertex power from without. Let the real pressure of a refined fluid, in weight all round, on the upper surface of globes, decide their rapidity in time, for the action of these decompositions, in conflict of the organized orders of the various layers in fluid and solid; a check, accomplished not by weight only, but by antipathies and chemical sympathies, where very refined bodies have immense force over solids. Let the light impact below on one half of the globe, as having an over-power for check above that half further in the distance, and over the whole half decide the impact and its curve, as in our rifle balls, air does, and let the sustaining length of the volume be an equal helper in draft for the force in line, and time by it, with support in volume, (giving by its ratio of distance a cubic ratio, convexional, superior advantage to the whole exterior circle of the medium's atoms, to draw off heat from the line transversewise, as of gravity on the wing in pressure draft and

NOTE.—When our astronomers work by the cubes of the diameters for the gravitational force of globes, they are obliged to *suppose* the masses equalized on equal radii. This magnetic attraction and chemical cohesion proves may be most exceptional. When God teaches that He has done so in an equalized medium around all solids by calling it the first heaven, they wont believe him.

support,) and then, we have a perfect law for the planets as organic bodies moving as Kepler discovered in his laws. All is equal to the work; all is consistent to the covenant of the wisdom of God; all is according to the verifications for all experiments on means below, and observations above. The sublime and the beautiful are real and understood; God is also glorified; the Church strengthened, and infidelity felled on its chosen lines of labour, its stronghold.

The Mosaic System of Natural Physics is proved true to the end of the fourth day by the study of facts—those stubborn things. They are wrenched from sophists, and the claim to the discovery of the Centrifugal Force decided historically by the very fierceness of the opposition, and the passion to put in a counter claim wandering over studied experiments. Truly might Tupper say

“Nature is the map of God mapping out
All his attributes.”

Its need of new matter, which must be new to prevent its doing injury, thermally and dynamically, before its exact measure is needed from above, proves his essential Deity as a Creating God, an immaterial Spirit. Its need of overflow to swell and sustain the full tide of convex life, and so constantly enlarge the demand, the willingness and delight He has to impose on himself a law of fullest benevolence to pure hope, by the rule Jesus taught, “greater is he that serveth.” While the value of one atom of matter in weight, and hindering solidity, or of any immature, or overpower, in any quality, shews how determined He is, that his rule shall be just to order for the scale of all below, even when the thing is unconscious and not responsible for the higher proper-

ties embedded in an earthen vessel, as intellectual and moral. How much more when so associated.

The evidence, too, in the exact legal accuracy of globes to this rule, from their beginning to the end of the sixth day, that eternal growth and motion may be incorporated in a body, as geology too owns, subject to the perfect interior command of all the elements of the circle-working thesis of life, is of the greatest importance, when we come to consider the state and law of man, in moral and physical attributes, for the offer of eternal life. As a means of perfection for all globes in their sphere, by a complete heaven, could only allow "good" for the use of a second heaven for one, *sui generis*. Two are better than one, when made to work the same end in perfect hands, and man was made, as the narrative shews, on a distinct and peculiar law of care for the order, in that over beasts, birds, insects, &c.—GEN. ii. 6. Eternal life or the "Good" in God's divine estimate may be embedded and sustained by Him in this order of Physics, either for the whole as one body and, with it, some of the elect parts; but a law of physical circulations supposes disruption and loss to some parts of the entities, as death to those forms, as in plants and beasts.

CHAPTER XII.

The path to all the ratios of Planetary Diurnal Motions and Masses—and all other property relations of the Universe.

Thus far we have traced the beauty and perfect accuracy of the Mosaic Cosmogony, discussing the splendid dictation of each phrase as superhuman, and its marvellous power, to aid in putting together the parts of the puzzle found in the mass of royal facts at work around ; when God exemplifies science in the one laboratory of nature, so as to shew (what all modern philosophers have failed in, while reading their own experiments,) the value of a full birds-eye view of the end, from the beginning in the threads and means to all the forms and motions of things so developed. We have found Newton's discovery of a so-called property of gravitation or weight, real, but while other philosophers have only been so puzzled by the new discoveries in electricity as to doubt it, and so lost this foundation key to the unravelment of the natural thesis in Jehovah, we have proved it to be a covenant rule for all nature in the solid, for the law and ratios of increase and stability in the mass in space, the only final line and channel guide; a law of demand also, for addition, universal from God, of mass, to provide leverage against commanding equilibrium to inertia, and also the property-law of arithmetical action as a third rule for addition, or nature's expression of implanted moral desire for universal eternal growth in all the

sources of "being" as of glory, honour, beauty, and immortality. Immortality being stamped on the whole and some parts. The globes as far as the first "good" is concerned, as well as man at last. We have proved that the new thread of matter, so added in covenant consistency by Jehovah, in answer to this innate thirst, so certainly resultant on universal loss by pressure, requires to have, *sui generis*, a new and superior property, as the means of more than mere addition on the surface, but also the fire penetrating chemical, magnetic, and fluid properties, so that a thread of matter does exist, which, properly speaking, must be entitled *the calorific stream of vitality*; while the latent sufficiencies of the mass it acts on, must be both, *sui generis*, only able to hold it latent until quickened, and so constantly and actively exhaustive of these properties in all added, when quickened; and also, while the thread of caloric, or light, is added, capable of becoming perfectly impregnated with all those properties along the line, in which the equilibrium leverage disturber is at work, in exact proportions to the ratio of pre-ordered variations, in the entire sympathies of all bodies and layers of the universal element.

We have shewn, that in considering all experiments, those of nature must be traced for the force of motion backward, fully and fairly, through all unto the outside to God, as creator of the means; and that therefore, any experimentalist who in his own examinations does not for the rule of exhaustiveness of means, go so far as to include the loss of the first means he has for his experiments, even to his own bodily wants from the raw material inorganic, is not a correct teacher of others, as he only gives a practically partial, and quite false theoretic view

of natural law. We have given the most simple and complete example of these principles, in the known requisite means to maintain a convex line of motion in any body, by all mundane experiments, *i.e.*, that attraction of mass on mass, unto instantaneous fall through any empty space or hollow, requires a sufficient gradient solidity in the matter forming the "way" as a refracting resister for the motion, and the certain requisition of a flowing thread of vital force organized in the centre of the body moving; which, by the means required for vital vigour of entire pressure from the surface to the centre all around, involves the requisition of such supply in the moving hydrodynamical thread, that it must flow over in individual looseness of another body, or on the universe, as one, expand its circle to the increase of the demand for the vital force, against its own inertia, in God.

The form of the universal ellipse we have accounted for, as the certain result, that all properties must work in the old solidarity of matter, which forms the first rule of God's will for this Creation. "A body hast thou prepared me" even unto the Messiahship over all. The true and only dynamical power in our Physics. The second and last laws of Kepler have

NOTE.—The fact is, Kepler's third law is based on the known law in projectiles, "that the areas are as the squares of their diameters." The annual times being areas by this square root, measured for two bodies by the other law, as of the one mass ordered, the medium, "that the contents of spheres (and thereby the contest of the one heaven on its line,) are as the cubes of the solar thread force." This proves all is of mass as the dynamical force, in mass as the dynamical medium; or masses made to fit the facts seen by rule in all their mass and its layers. Heat has no true dynamical power, being an essential property of the pure square. Its force is dependent on embedment in matter.

been accounted for in harmony with this entire thesis, as certain arithmetical results of the due just circle working organization, in distinct measures and masses of matter, with distinct, but suitable layers for all their functions, by the feeding of light, on all the innate sympathies of all properties in such masses; while they, being thus made fellows of a system, are forced through a medium, which is made separate in regard to chemical coherence with them, and yet unique in common gravitation in itself on them, and as submissive to distinct motions by the law of gravity around them; so that they, under the rule of its loss of pressure force in their vitals and its threads of supply, lose in the velocity of motion through the medium, in proportion to the rise, on the just rule for loss in gravitational action, on their life valves on one cube, which is of mass and density of mass increasing toward the universal centre. Thus the circle of comparison for diurnal velocities, in globes, we find must be in the ratio of the force which gives distance to the mass, as of individual force of pressure on its own centre in each body; the expansion of that mass, as of comparison with the same volume of the common medium. The last complete evidence of the covenant accuracy of God to the ordered rule for all the universe, as of all the rest made for the earth on her tire and wheel system, the ratios of diurnal velocities lies open. So also the times in the annual motions being on the square root against each other, although in the simple cubes of the column, with no other point of comparison

NOTE.—There is a philosophy, I believe, *called* the impregnability of matter, *i.e.*, like an Englishman's house, every atom has its right to hold the space it is in, which space cannot be held by another atom. This is true as a necessity for substance and the cause for ellipse by displacement, or the true dynamical powers—weight and velocity.

needed, as the line and velocity on a convex curve in perfect apsis, shews it to be, by a law of the simple forces, wherein, two atoms in impact are double one, as overtime in all the organic compound globes; 4 double 2 on a full multiple in space, or solid ratio for a circle, or the law of the virtual pure sphere; mass forcing the rise, and mass resisting the sweep in a medium against the globe, ruling all. The advantage of magnetic power on elective masses in cohesion and circulation, in outer stars, as a means of lifting and relieving dead weights, where the variations of the whole system of compounds will thus admit of greater variations in the thread of entire interior and surface manufactory, as for our earth over the sun, will no doubt, now its vast use by Jehovah has been explained, (and first among moderns so presented,) lead to wonderful mechanical successes by the same simple resource, (what might not a still simple solid set of magnets do to aid a pump if suspended over it; it would give no added friction, as the balance bob does, but relieve it.) It not only explains the cause of their globular immensities, as notwithstanding the increase of chemical throw-off-force on them to preserve the magnetic ratio, they must in a just ratio for all the properties, (which are equals in all the universe, but of subdivision in the parts,) require to be very light balloons, when compared with the volume of ether

NOTE.—A good illustration of this might be found by considering the power and value of military squares, that static cube, which has been so long the resource of the tactician on personal gravity. The force of immobility, not only as from without, but of the body on its central parts is the point of perfection. Cowards inside *must* do their work. If a force experimental be tried to disturb it, the first value of the square is, that it can only exhaust power and stand stiff to resist force to break it up.

they balance beside the lower globes of our immediate system ; and at the same time that the solar centre, as the required superior in the vital forces of all action, must draw such a force of magnetizing fluid, as to prevent any one of those upper globes by this property, obtaining an attractive action above his for the rule of the centre, as well as in his superiority by immensity and density of mass, which makes him the fit holder of that position in the first law of stability, inertial firmness, and attractive power downward by attraction in mass, superiority in leverage and all. At the same time, the divided advantage of so many upper magnetized masses floating all round, and suitably disposed in groups of various divisional systems secures them together, their efficiency to act on him and the planets as before herein described, and horizontally of half against half for a near equilibrium, elliptically on the solar path by the disturbing action of new light. The grouping of these magnets requires to be like the layers of the earth's more clayey system, so divinely varied, as to allow of the full and perfect operative action in light, as the one thread pushing down and passing through all, but variously divided, so that the function of each globe is as of one plant in one vast greenhouse of heated life ; but where motion of the growing bodies is imparted to the pots

so that the least motion is by absolute constraint on loss of all the properties and objects of the state. Now any body attacking can best act as a wedge, *i.e.*, on line, and bring its force to bear as a stream, as though drawn by one law to a point, and another of breadth without, to cover that point by a wing spread. If constant life action be so wanted, instead of a crush or exhaustion to death, and by a law of friendly union to keep up the square, the men must be new eternally from without, radiating to each side of the square, in the ratio of the cube for supply in the mass arriving

and the house also, so that the status of each is maintained in all relations of the suitable need uninjured, and subject to the due variation of all the forces.

For if the exterior stars were not separated off from the solar system, so far as to have each distinct centre of action, besides his, while all are finally dependent on him, they must all resolve into planets, and tail off on the ratios of Kepler's laws on him. Of the powers of nature to be so far divergent and yet united, the moons of our planets are inferior evidences. In the latter case the stars could not support the planets by magnetism. At those distances, and as around their own centres, they being bodies subject to the common solidarity and guidance by one ethereal material medium, by one thread of universal calorific fluid—light from God over all, and outside all, will be found to have their times and distances, with the forms of their circles and bodies also, under Kepler's laws, on their own centres, because Kepler's laws are the only working fundamental laws of common suitability for matter, as subject to the rule of primal law in gravity by solidity, that is, cubic or spherical trigonometry, based on the square root of simple line of such substance measured by time indices for the rolling circle. The perfection to which variations, in partial locations, may be carried out in matter is evidenced in the two crowning rings of Saturn; which vast planes, while they shew how, when all the laws and properties of the system are submitted to, the varieties of forms may multiply, provided the entirety of the system be also sufficiently extensive in endowments and volume, they also prove the value of the exterior directory of magnetic attraction, as evidence, of the need that the planetary system should be cosmogonical, with the bodies

beyond in one universal dividing medium. While the law of virtual equality, as of the bodies' own powers of pressure, in old attraction for the centre, only by absolute rule of mass, or weight, (proved by us to exist by Newton's *Principia*, for the centrifugal radiating force of matter,) in relief of oppression, and coldness of outer draft, the aid of the same medium secures.

The rings of Saturn are therefore held to that planet by common attraction, not because the superior attraction of the sun is lessened by distance, but the solar power is also the greater projectilly, to throw them off from him in relation to the line in which they were first *set* on Saturn by this distance, giving the volume calorific, by the superior entire pressure on him of all the heaven of ether, and all in it; thus these rings prove the fact of the law which made nature both incapable of making a globe, by any seed development, as well as the need, when they were made, that these sultans of space should be *set*, by God's hand, with all their apparatus in a right line and position amid the rest, for their first start in motion, scientifically.*

The velocity of these fly wheels will then depend on the ample force of their whole mass and surface, in extracting caloric from the planet and the solar

* Although, no doubt, if a globe were miraculously pressed below its perihelion, or set back among the planets in an annual circuit, it might recover its place and balance, so that philosophers have had some such apparent excuse for their idea of Nature's throwing off new-born planets, not knowing the other requisition of their structures, yet no one would be goose enough to believe the rings of Saturn could do other than rapidly subside to the sun, or some nearer globe; if once these rings of eternal union in Nature's marriage settlements were taken out of their place, much less Nature make them, with the globe, and set them here.

beams, with all other distant aids, as that vital stream acts on their concentric layers of suitable substance, while they work free around the centre of the planetary gravity, having no distinct organic sufficiency of their own; and as the velocity of all globes will be dependent on the pressure power in the centre of their masses, in preponderance over the radiatory one, which is shown by the condensation of the polar axis in latitude across the equinoxial line of principal radiation, these rings must whirl with the velocity of true ballooning fly wheels, because they are set around, but not chemically coherent to that planet, and thus are free to a distinct velocity of motion of their own, in proportion to their ample planes to receive the light of the sun, beyond any globe, for ready easy volition; and the velocity of rotation will be in proportion to all these agents of motion, acting as forces on such free and easy factors of light, according to their aptitude of equatorial zone royalty.

The value of these rings exceeds that of their coadjutors, the planetary moons, in the important work of dynamical balance, by the royal means of thermal forces; although not acting in the same degree as condensers and reflecting restorers of the vital power to the planet itself, so much as the whole system below; hence, that planet to aid him in his ponderous work of carrying such an atom-cutting sword belt, over all the forces of the system, has also several of the condensers and reflectors around him also; several planets having them, (as our earth has one only,) in proportion to the functions they are required to carry out, to complete the system of accurate watchfulness in the "good" needed for the earth, as the place of man's moral responsibilities in the use of all material substances in and around his body and mind.

These rings, as physical types of God's moral system, represent the balancing final power over all men of the two crowns of the Messiah. The heavier lower one of his earthly imperialism by the new flesh, in the new seed from above grafted in that of Mary, David, and Abraham, as of the restorer of all the royalty once man's, the king of this earth in Eden "made heir of the world" under God; (the Word made flesh) and the outer ring the more sweeping imperialism of the Redeemer as God the Son, The Word from the Father's bosom, and king by right thereby over all the creations of God of all times, measures, and mansions. A true and perfectly well balanced imperium in a divine imperio, working by ellipse in the thing material and finite, but finding in Jesus a birthright association, with the eternity of the "good" in the full eternity of God. The claim of the moral law-keeper as God's own Son and federal head-restoring servant, in the flesh, the second Adam, and also the claim of the King of Glory, the Fellow of the Eternal Father and Spirit, one God, blessed in one full personality indivisible, Jesus over all for ever. Who will give up these beautiful readings of the temple of nature, to please the witlings of that science which is only science in blunders after all? or as Paul called it "Science so called." Science indeed, without new and solid Light. Men who love not the Lord, their Maker and Redeemer, or venerate his wise use of his works. With our two diagrams, let us now study the theory of Material Force in Thermal Dynamics on globes, for the ratios of planetary diurnal motions.

It will be evident that the most simple and direct plan must be to take those of the same status, that is, planets, and leave their moons.

As this work is not in the original title, and

cannot rightly be so extended as to assume the full office of the practical astronomer, and give all the ratios of mass, distance, and velocities of heavenly bodies in detail, we keep to our office of hints, and primary demonstrations on the laws, to shew the force of the suggestions, on the principle that a mere acquaintance with great facts, without knowing the means to those facts, is useless, or at least of a very low order in value, and not what it is the will of God to confine men to, as the gift of the Mosaic Synopsis proves.

By our diagram of the pendulum, we find the force of pressure, and the force of relief are correlatives by final relief, in the ratio of depth toward the centre of gravity, not by the law of distance by space, but the ratio of mass deposit and loss, but that, as the form is given under a rule of the true centre, virtually, the practical centre will always by its measure of removal, declare the proper style for the form or anatomy of comparison, and its comparative powers of motion, with other bodies of like order but different masses. Force, by cubic evolution on involution of the line in depth. On a pure sphere, therefore, no dominion could exist, as the form and rise would both gain on the central loss, so equally, that the objective power matter requires to back up leverage, could not be found. Then refraction is the very means of first power over matter, *i.e.*, its resistance to motion in the greater part by a quality common to all solid hold of space. Thus the rule of immobility of the universe as one solid in space is proved, except it all follows submissively, but very slowly, by attraction on the line of light. Thus again, we see, not only the need of this body as matter for compulsion within, but the volume outside in sole line above, or rather below, as it takes

the solar place on the universe, must act as a line of material and magnetic attraction toward the bosom from whence it flows, whereby it awakens the current line of the outer ether, like a trade wind, and is also a fulcrum rest-push, and rise inflating volume, doubly forcible, as having the power of old attraction by mass and magnetic attraction of heaven, in one sole line to call the mass central, although that by its weight, is interiorly used as the fulcrum of rest to give greater velocity to the heavier solid. The final threads and ends of threads beginning and ending on original ratios held immediately in the Creator's hands. The following simple rules dictated by a necessary consistent retention of the law of gravitation, will aid any good practical algebraist in the attainment of all the exact diurnal velocities. I have tried it in the rough so as to confirm my conviction from the laws and principles what it must be.

First.—Every mass will float to its own level in any medium without any organic centrifugal force, by the mere necessity to submit to the law of the hydrostatic level, *i.e.*, if it be waters.

Secondly.—It follows, that if a body is not so levelled, but being heavier in bulk than the floating medium around, attains an unnatural level to such bulk in gravity, it must be raised by some other mass, *i.e.*, forced, which may be chemically.

Thirdly.—If such body is not only so raised, but also constantly sustained at such level over the medium of gravity, the means to do it must be as continuous as the fact in chemistry as well as in new matter, forcing.

Fourthly.—No means of such constancy are known to exist, except the awakening of mechanical power by thermal free breathing, or constant receipts of refined chemical compounds under attraction, which

by interior condensation, fitness, decomposition, and radiation, create a living, vital, and healthy circulation, in all the parts of such bodies, by which they can turn, first on their own centres, and then through the surrounding medium around the common or peculiar commanding centre. The variations for the diurnal motion ought to have been the point first sought; such would have been the case had the value of the divine old key been known. One globe, and this motion, was first created to this end.

Fifthly.—The physical force of bodies so worked, may, by the ability used in the selection of the materials for the layers of their own bodies, to supply this means of constant action, be varied immensely, *i.e.*, according to the immensity of the volume, and full variety of means at hand; which for Jehovah are, as at hand and already created and according to the immensity of this universe, or his creative will to his appointed time of final rest in Christ's work.

Sixthly.—It follows, that while the dependence for velocity through space of all the planets is known, by Kepler's discoveries, to prove them dependent on the ultimate force of an ultimate commanding means, whose power is reduced by simple line of column from the centre for their velocities, as of one solid sphere afloat, the Creator's hand was not shortened in means to vary, and without inconsistent departure into miracle, the number of diurnal motions bodies will make to the same constant loss in velocities by the line, as chemical variations may be more numerous.

Seventhly.—For if a globe be raised to any distance, and the body of such globe be required for the variation and perfection of the system—where human actions can be weighed—then it was only requisite to create selected materials, as by their natural density are more compact, and also under the com-

mon stream of commanding impulse more active in chemical force, and the needed variation is attained.

Eighthly.—But as all the universe is a body balanced on one governing central law, it follows that such a difference in the organic nature required, will be detected in some just divergent results, and some common unity.

Ninthly.—Hence, as the only real motive force is of atoms of matter displacing others on an elbow, or elliptical line, under chemical excitation, if any such globes be found, as in our asteroids especially are; then, while the laws of Kepler remain unchanged in the annual flight—the refraction, or resistance of solid to solid of the vital thread, must be greater, on the axis of the body itself first, and second on the annual flight, as is the case, *i.e.*, the ellipse of the flight is increased, as they need much organic compactness, and thereby greater refraction in light diurnally.

Tenthly.—As the additional fierceness of the thermal action in disruption and deposition must be submitted to, on a globe of smaller dimensions for a greater height, while the exhaustion, as a whole, will be in proportionate velocity to the great receipt of the working stream under the common pressure of the medium, in the values for the annual flight, a greater number of rotations on the axis will be made. First, in proportion to the mean distance and the size, proving the foundation cause is the same with the annual times, and next on the cube of the second distance, *i.e.*, the semi-diameter of the body, whose law of life on its own axis must still be of the cubes or spherical-pressure-force from the centre of its own body on its diurnal velocity in the squares of times. This law of double proportions, and power of organic variation, and the most profound slowness in our astronomers to rise to the idea of the skill of

God to work globes by natural organic means, is no doubt, the reason they appear never even to have been exercised to find this beautiful unity in the system. But what is the discovery of Neptune in real importance to it, to this fourth law to Kepler's?

Now, our moon takes one annual time for one diurnal, and constantly stands on the crisis point of the lowest order of thermal forces on the mean distance from her centre. Her librations being also to be considered.

By her actions of rise and fall Newton made all his correct points of judgment in gravitation, although without the faintest idea of accounting for the organic aid, or most terribly disturbing force of light. If, therefore, the algebraist takes the rules I have presented, results will become known from the first instructions on the causes. My algebra was laid aside at the age of 18 for the Midshipman's berth, and it is not worth my while, amid a host of other engagements in the Gospel to rub it up for the mere sake of keeping another out of any honour he may be better adapted to attain on this point. My object being also not astronomy but theology consistently with my vocation, as called of God to maintain the Truth and Glory of his Word—a Gospel preacher.

As all bodies, which roll like hoops or wheels, cover so much space by simple tire-wheel measure,

NOTE.—The best illustration from below, of the cause for the variation of velocity in a body's diurnal motion to retain a great height, where the annual decrease is by a sure ratio, may be found in the certain slip and loss of power in progress the action of any steam carriage axis has going up an incline, and *vice versa*. A horse has to shorten and repeat his leg strokes to get up and keep a steep incline, and in the other it is the same to keep it. The condensed force within being the same.

and yet may pass through more space as free agents; so the variations in the ratio of planets on this head, become a new point of interest. The needed check on all motions of solids of power and final heights, the medium or firmament, following by attraction the main general line as the first heaven did, regulated the first diurnal motions under light when the earth was the only globe. The chemical ratios of light also by their varied draft and emission may be found. The diameters, and the forces required on the diameters, of paddle wheels in steam ships, where a small vessel is expected to keep pace with a larger, is an illustration to the point on the diurnal motions.

The low diurnal motion of our moon, as of the most reduced power in the circle of nature's forces, is a proof that our earth is the globe nearest the point of greatest variety and beneficence, where a night reflector, which must be a weight, and also a heat drawer and condenser, could exist. Thus science echoes from the heavens above the Mosaic principle, that this whole universe is of a mass made for man. Physical solidity as a thing, or something made, being the foundation law of all its consistent powers, the only motive conveyancer of all the immaterial properties engrafted therein by God. Elements of matter from the solar centre when once turned off from his line of draft on his means of supply must be further decomposed, (and improved or depreciated) although they may be attracted and caught by bodies dependent on him, and retained for awhile; and every moment that stream of the blood from the main heart has its equivalent discharged outward, further on the journey, to support the final convexity of the universal firmament, otherwise all law of over **all** inductive reasoning is a farce.

By the just action of the medium on planetary velocities in space, the force is inverse on the cubes on the distance, *i.e.*, in the thinner compression on the valves of the body the velocity decreases, but this is mediated on the diurnal motion, as it is compressed and active within in proportion to the power given to make and keep the distance. Hence the cubic power of the body measured by depth or distance, *i.e.*, of the whole planetary firmament and system must necessarily be virtually organized, *i.e.*, again cubed on chemistry, so as to enable it to vary its diurnal force. Now we can easily understand how a body on an axis may have the whole force so compressed on itself, so as to be forced to very rapid repeats of the motive action; even as in a man with short legs against one with long, or a bird with small wings beside one of long flaps, and yet the vital gasp in each for velocity in space be under the same general law of equal loss by rise. So of globes and engines.

The last act of the universe in motion can lead the mental eye to, is, as of one vast volume of divinely supported inertia, according to the mass in space, climbing like the spider on a vertex thread of light toward the hand that gave it, laboriously, yet searchingly and constantly, as the light measure of the attractive power by mass and magnetism of light on it, cannot, but by the accurate and pure-minded philosopher, be seen: and this beautiful testimony, (more clearly brought before us in the earth's state the first three days,) has the most simple and sublime thought of the hope, and difficulty, of climbing up to God and Heaven, conceivable. Hope, good in desire, but in its first state and law, a vanity, as the thread must be always above and outside.

As the earth's first nucleus was supplied with a third proportioner to rule its motions under the force of light, both as a needed settler and retainer of a given solidity of surface, and a just check on axial rotation; and the means in the chemical characteristics of each part must, as every sensible chemist knows, require to be decided on the rule of purpose and power, so, when a new chemical element is to be raised, it is only necessary to interject a new character in the chemical working thread of new supply, and if the first parts are ably laid to a given end, it is obtained—not otherwise; and so—as Professor Gaussen admits for the age of the coal measures—as the forced confession of all geologists, light must have been chemically varied for the operations of each age on a plan of progression or just rule of development.

The term development, or the “development system,” has been made a bugbear to Christians by the ridiculous nonsense, as unscientific as sceptical, of the black writers of the age, who filled England and Europe, both with scientific and moral dishonour.

The fact is, Satan never works among intelligent nations except by grand, but perverted truths, and so he gains a double end; he misleads his ready victims into some idea of wisdom and progress; fills them with a measure of even just contempt of those who entirely deny, or avoid the study—evidence of the truth of which is easily found in facts—and then frightens the simple-hearted believer (by hideous conclusions of impiety,) who takes God at his word for the better parts of the Work in Redemption, so that he condemns at last the whole subject of science, and will hardly believe his own eyes and senses, or wait patiently the Scriptural solution of the question in the Spirit's time.

What has all the system of God been, even in spiritual things? *i.e.*, in what has been called dispensations, (by Paul, correctly administrations,) as only of many—What, but the orderly unfolding of the new from the germ in the old, on the basis of order, covenant consistency and right; and whether the six days be long or short, complicated or simple, there is a development system, as much as in the progress of a seed to the plant, tree, flower, and fruit, or the caterpillar through the chrysalis to the butterfly. All persons have on their minds a development system; the whole question is, which is most to the glory of God on the true and correctly read Harmony of Revelation and Science? In this work the reader is introduced to one. Let him fairly weigh and judge in prayer with God and beside his Word.

Among the most simple illustrations science has provided us with, by mercenary invention—that the universe is not ruled by equivalents of motion as friction, and friction as giving out heat, and so motion generated again,—Bryant and May's match is one.

The same amount of friction given on any other substance than the chemically sympathetic one, will develop but small heat and no flame; but let the tangential line of friction be on the right stuff, and the lightest effort is responded to by the development of a peculiarly strong and beautiful flame. But how, under universal pressure to the confines of the universe can these light gasses be recovered again? even if they are swept round with our atmosphere they must rise at last through it; and if then streamed off to Jupiter or Saturn, then equivalents must away to the confines of space, and it must require a supported tangential force of throw, equal to move all masses, which can preserve the lines of cross friction.

of this universe. But little minds will never grasp great general principles.

It has been recently said "It is right to contemplate geometry under a purely intellectual aspect, and to study it as a strictly abstract science. Practical operations are all more or less imperfect. There are imperfections of vision, of the hand, of the instrument employed. Pure Euclidean geometry tolerates no such imperfections, however minute or unimportant they may be in a practical point of view. The circle of Euclid is a *perfect* circle, such a circle as no human being ever formed. In like manner the straight line of Euclid is rigorously what it is affirmed to be, *perfectly* straight and perfectly breadthless. You see, therefore, that we are fully warranted in saying that Euclid could not describe a circle, nor draw a straight line: he has not, indeed, attempted to do either: the marks and diagrams which he exhibits to the eye, in connection with his reasonings are nothing more than the outward symbols, of what *actually exist in the mind only*. And the truths of geometry become applicable to visible and tangible squares, circles, &c., only on supposition, or *assumption* that they are perfect copies of our intellectual conceptions of these things." So much for a just confession of human limits toward the perfect; but what says the historian of the astronomic science, observation has watched and seen done by God? and that too through all the wondrous mysteries and complications of chemicothermo-dynamics, and in spite of the reckless madness of millions of men on earth. Still, the eye of the astronomer is fixed, year after year, on the telescope nailed to a rock, and in the finest line of the spider's web, can detect nothing in the motion of the earth on a fixed star but perfect times, although

lines and ellipses be open to injury by man. Surely the scholar's difficulty is developed in matter, by perfect scales of power and wisdom in Jehovah's hands, and can be so seen on the ultimate atoms filling space with constant variations of all but the times.

All the universe *must* be accurate to its connection over the man's world's division of day and night. The philosopher who would build a theory of closing our planetary system, as not connected with the colder regions above, is simply unable to grasp the consistent means and operations of nature's scale, to the harmony of the whole. He knows not the Scriptures or natural forces in the power of God. Yet he may bask in the sunshine of popular applause, because he fits its general level by a lean false system. Every true geometer and practical chemist must know, that where matter touches it must be either a negative or a positive, a retainer and check for vital healthy circulation, or a conductor; it must be a poison and a choke-damp, or a vivifier.

The grand general principles on the laws of Natural Physics we attain hereinto are these, with many inferior branches.

First.—That the power of matter, by being substance, is its retentive hold in space to its finite occupancy, and its constancy to keep it, until by its superior in that quality, it is displaced, whether acted in by other properties connected with dynamical force or not, as aids to displacement.

Second.—That the rule for all immaterial properties embedded as the apparent causes of motion, and assistants to variations in matter, is their submission to the pure law of the scale, or perfect square root on line, and pure cubic sphere on the circle, by which all correct calculations and principles have been ever made on them by all experience, and hence all *points of rest are not* in spaces but points of matter.

Third.—That no practical experiment in nature can reach the perfection of a pure sphere in form; every experiment on earth, in nature, every observation on the heavens above, and every experiment in the laboratory, harmonizing with the first objective law,—that matter must swell from the pure circle to the ellipse in all forms and motions, by the law of “rehoboth,” or room, needed for entrance and liberty. Thus the first law of motion in liberty, as a moral type, is, that the inferior must give way, and submit gracefully to bend to the superior, which again admits the force of the same conclusion on its just value in its inferior, either of the one great one over the smaller, or the heavier united force of many smaller over one heavier, according to the just law of a divinely worked scale. Yet the heavier is seduced to motion by the lighter to restore the balance.

Fourth.—That the Creator who gave, and alone supports this power of simple dignity in “To be,” has wisely done it, as it becomes the means of axial formations, and pillared arms, bound as wheels, subject to the overflow of the vital fluid thread to constant lines, although with variations between equinoctial points or apsis; and, thus, it is the foundation of power and variety, with grandeur and refinement, to develop under the pure virtual law of time, or life motions, a universe of such marvellous variety, between the great and small, as our system presents, from a glowworm to a constellation or a nebula. From the animalculæ organic to a comet inorganic.

Fifth.—That the only means ever found by experience and observation, for full vital health and vigour in a system of chemical actions in dynamical solids, is, full outward circulation, which of necessity must be subject to the same elliptical lines of minor and final flushes with the law of

matter as of solids, and this is not possible to be in any known fact of nature, or experiment, without the constant sufficiency of a ruling force or new thread over the body experimented on. The virtual perfection of all properties, as of the pure square and sphere, involving the certain death relapse by the real solidity of matter toward this, as of the equilibrium of rest in collapse. All the experiments ever read differently, having been only imperfectly collated in the practical means used for their continuance; it being also in theory opposed to all rules of matter in gravity without hope of rest or order.

Sixth.—Hence, as all velocities of the vital flowings of material nature do maintain their elliptical constancy away from the vertex relapse to a pure circle, whether considered for the great ocean gulf stream and other arterial forces of the earth, and above of the planets, and fixed stars in any degree to be observed, and the decline, by nature being left alone a year or an hour, must be of a result according to the universal pressure increasing by her full mass. It follows that astronomy joins issue in its highest branches of discovered facts and known governing law of attraction, with the voice the study our one globe raises. That the beneficent Creator is scientifically proved to be scientifically in perfection at work, not only in the body of the universe to do all its work, but, as Moses intimates, by His Spirit's aid, for the earth's laws and generations of the first three days, when the earth was alone, and so given as a study to the general principle for ever, sustaining the constant "To Be" of a stream at first so needed over all direct from Him, and in the proportion to extension of the universe; the more so, as a river of light and delight. So for the law of universal

exhaustion, (and the danger thereby, to collapse, otherwise,) the scientific Psalmist could say

Thou makest the *out-going* of the morning and the evening to rejoice,
Thou visitest the earth and watered it,
Thou greatly enrichest it with the river of God—full of water.

Here the law of universal danger to decline of power every evening and morning, was seen in a purer reach over the laws of physics than our most vaunted names have attained, as well as the only means of safety. May the blinded bigots of false philosophy, who will not see, be yet delivered to the repose of all true light and faith, that they may no longer be the most powerful enemies of themselves, their country, mankind at large, and their God.

NOTE.—In the annual motions the astronomers had the advantage of correct observation on the fixed stars for all the annual times of planets, while they can only have the same aid for diurnal motions in that of the earth's surface points; yet this will be enough when the true powers of mathematics are brought to bear with the variations in the angles of the annual ellipse, to secure the same certainty on distance and diameters for these primary results of the force "centrifugal."

A P P E N D I X.

WE shall be aided in comparing the attainments of the sacred sages, with those of men of the restoration, by the study of a recent paper, which only came before me since the other parts of this treatise were sent to the printer.

In the January Number of the year 1867, in "*Good Words*," we have an account of the meteoric shower of November 14th, 1866, from the pen of the Rev. C. PRITCHARD, M.A., F.R.S., President of the Royal Astronomical Society.

This gentleman by his office is to be supposed fully acquainted with all the most perfect ideas in progress belonging to his science, made to that hour he wrote.

The shower he watched and describes with great clearness, so that any non-observer has ample opportunity of seeing it as far as the pen can assist him.

When he draws his conclusions respecting this spectacle, and its witness to other phenomena, there are three grand ones spoken of, and linked into a sort of chain of causes. On these points we shall claim our liberty to comment.

They are—The shower—The sources from and over the sun for the zodiacal light—and the rings of Saturn. It is suggested by Mr. Pritchard that as a great number of smaller planets have been discovered, (livingly, as regularly in ordered times, sweeping around the sun in the same laws that the larger ones move) there may be innumerable

numbers of them unto sizes so small as to be only a few pounds weight.

Then, without any evidence on the laws of Kepler for the rule of rings, or the atoms of matter called rings of planetary dust, the existence of which is not even professed to be *proved*, the really existing smaller well-ruled planets are reduced to the same denominational level, and, of course, as the smaller and larger planets now discovered are known to move under the just base of gravitational distance and velocities of Kepler's laws, the larger planets also become mere organic atoms of cosmical dust. Organic powers thus being swept off as not required for these bodies, which move in the most regular and longest times, while on earth *we* find smaller bodies for lesser times all need it. What then is become of experimental evidence? Then he says:—"We begin to think also that these mysterious appendages to Saturn which we call rings, and which in the most powerful telescopes and to the sharpest eyes appear to be numerous, are nothing more than the same sort of dust rings which we have seen circulate round the sun. It is quite certain that through the matter (or the interstices of the matter) of one of these rings, the body of the planet is visible." Also,— "That akin to these it is not improbable may be that something which surrounds the sun like a thick lens, and from whence proceeds the zodiacal light." Of what use can it be thus to build one theory non-proved on another of sheer supposition?

Here then we find that no scientific idea is admitted in these highest circles of science, that all natural physics have by experiment proved, that stars, or any bodies performing constant annual elliptical circles around their centres, must have with their centres, bodies organically moved by thermal and

electric action, producing in one direction a diurnal rotation, and thereby, one direction in advantage, for the steady line of the annual sweep under a physical expanding volume of light matter from such centre, which is thus their fountain of centrifugal vertex force. That is, the first laws of nature, inertia and attraction, are not known absolutely in their powers to tend toward, and only toward rest and equilibrium on the surface of matter, by rule of mass. The old notion of motion in space being able to be its own continuing means, or cause, is unchanged, in spite of the known fact, under experiment below, and all previous, and recent experiments on light and heat.

The German experiments proving light is matter bringing metallic earth substances to incorporate into the body of the earth, as a real vertex weight on globes; and all Dr. Tyndal's experiments have not in the least led to a just view of the true laws of natural physics, like the pure harmony with law and experiment the Mosaic narrative develops. Their advantages gained are only on minor experiments, and the result on true fundamental law has been rather to blind the eyes, as is always the case when man seeks wisdom without the Bible as his key, be the sort what it may. On science it has been so treated by hosts of men of much piety.

The meteoric shower is supposed by this writer to arise from the earth rushing into, and meeting at great speed, some such lines of cosmical dust, and by the atmospheric friction setting it on fire. Why the junction of ethereal streams of gaseous fluid is entirely left out of the line of probabilities, as by experiment we *know* it is really able to float and develop such sudden lights, we have no guide? Surely, the fact, that our globe is surrounded with a very powerful heaven of air, which by its pressure

is constantly raising from the earth's diseased bed horrid vapours of the bad in death to even man, and discharging them to the space outside ; and that the continuance of such pressure to the ether above would as well account for such results as chemists by the mixture of gasses often produce at lectures, especially when it is owned that all matter must join in space, and have variations of currents in places, a gleam of which Dr. Tyndal attains to by his experiments, although with no correct idea therefrom that the need of a heaven proper besides for their regulation, ought to have been also considered. Universal attraction acting between all globes always involved the junction on their fluids. The development of a hot solid precipitate from such conjunction of gasses, is also harmonious with experiment, to account for hot aerolites ; and volcanic eruption, projecting upper parts of the moon or other planet, from the surface by volcanic action below, would account for those falling cold when the masses were of cold fragments forced off her surface, &c. Respecting the zodiacal light, he states :—"That one observer, after sitting up two nights, succeeded in seeing it, and that it appeared in the form of a cone."

The question, to be tested for a reasonable answer, may be considered on that point—How could such a form be developed by disjoined solids under known law by experiment. Light, as a fluid, may be developed under many constant forms, such as the pencil ray, sheet, cone or tumorous style ; the coruscation, irradiation, and simple quiet float into darker fluids, then becoming imperceptible as to form, by the law of its own measure, with the medium it floats into, which at first decides the form ; and the state of the medium must enter every case of experiment, and then the form obtained is deducible, never otherwise.

Suppose, then, a mass of cosmical dust at white heat was projected from our earth; how if it be thrown so as to appear like a cone—if in its more solid parts it had the least likeness to one—must it not curl all the atoms from the apex, and all fall within the point of ejection again? A gaseous light of superior density, by immediate bosom pressure of the surrounding atmosphere, may, as in our gas taps, give such a form in continuance, without any return of the volume from the point of superior burning of the feeding gasses; and not return, to double back, as dark atoms. Even if it were possible that inorganic atoms could fly in circles around globes, so overcoming attraction and inertia, or rather fundamental law, and be above law, the form must always be supposed of the ring outline, whether seen in parts or not; and, if the mass was a thrown up rush of solids, as cosmical dust by the velocity of the diurnal rotation, then it must by the falling back again, like water flung from a swift grind-stone, darken all access to the surface below, and all light therefrom, at the point of our sight; but if a surface of constantly flying solids can be maintained over a globe by its force of velocity, then, as the attraction of the globe, and each atom on each other, must be overcome utterly, there is an end of all rule by gravitation.* Why then was chemical cohesion invented at all, if its work can be done without it? And why steadiness in light depend on sustained fluidity?

* If an astronomer were standing beside a boy of 15 when some solid was seen approaching the earth's centre, and the boy in the least suggested, as the swiftness increased, that an angle of return away could occur, he would think the boy either utterly uneducated or mad, unless it met solid force of some sort. What must the boy think of the astronomer?

The silly school lesson I saw put before a national school boy recently, that all about light and heat is uncertain, and that there are two theories, (the *boy* being left to choose—one, of its being material, and the other, dynamical and mechanical,) must be given up, or all law and experiment is whirled outside the universe into empty space—that which is dynamical as exciting by a property mechanical action, through chemistry on another body, must have a material body, *i.e.*, be all there or have nothing to carry its property. It would otherwise be simply a charge of witchcraft against nature, the power to poison a body without any expectation for the chemist to extract the body carrying the poisonous faculty, or food without the matter for the belly, like the belly.

If the rings of Saturn be supposed to be ruled in motion and position by electric action, generated by light from the sun, &c., and backward from space, outside from God, with that planet's own radiation, and to be formed of suitable cohesive material as an electric chain unhinged, charged as elected matter from the general ratio of that faculty, with the needed superiority therein; then its required lightness may be natural, and admit of an observer seeing between the parts, without upsetting the claims of inertia and attraction in gravity. Then this planet will have outer purifiers of his vapours, answering in degree for, and of better brightness to the earth than a true heaven; while Jupiter, having neither a second atmosphere or ring, will have his upper fluids constantly tailing off from the body to regular bands of opacity over his equatorial lines, as is observed.

Our style of outer ring—the air—being a true although a raised heaven, parts the earth's rising vapours into all the beautiful and useful activities of cloudland, as we need below. The universal

pressure of the whole universe, as afloat in the upper heaven of all, girding the sun as its central condenser, will at once shew the pump-pressure, and its variations, whence the more sudden and perceptible volume of his heated body developes the zodiacal light ; and its emission into that heaven perfectly accounts for its observed gas fantail forms.

Mr. Pritchard's Paper is a very good and interesting one on the whole ; but on these points the results of experiment on gravitation require more care ; and the reader will observe that, as the Mosaic account of the Creation's first generation gives us three days as fact and means for our lessons for all the universe, by the earth alone,*—the principle taught is the same our practical philosophers sometimes are true to, and mostly declaim on—that is, that all hypothesis on scientific subjects must depend (when apart from divinely avowed miracle,) for a correct logical evidence on what is known in that within our reach, *i.e.*, by experiment on the earth's system, the rest of the universe being created after the earth, (a true principle of covenant-keeping law,) to fit hers, as before proved. Thus it is, Moses is most true to experiment, not our modern savans. Moses never commits such a blunder as to suppose a planet can turn off from its descent toward the sun by mere swiftness in space ; in spite of the constancy of both bodies for each other, by whole mass to close, aided to, in time, by the acquired swiftness. Our philosophers should have learned the true application

* Christians must be careful not to question a writer's keeping to truth in holiness, merely because he maintains God keeps covenant in the use of *Law* by natural physics. The very admission of the fact, in its place and measure, is requisite to shew the same justice, when the ratio of instinct and moral claims and powers are united thereto. God is law even in grace.

of Newton's first lesson, "Quantities, and ratios of quantities, which in any finite time, tend continually to equality; and before the end of that time, approach nearer to each other than by any given difference, become ultimately equal."

They should have seen that the first law nature required as in interior command is inertia, as a resister to over turbulence, and that its ratio must be as any mass; while addition as attraction also, by mass, is ever tending in all time to equilibrium on the most expanded mass, around all the surface, and through all the bodily parts. Thus, rest, undisturbed, is the first law of desire in matter, and a desire to see it restored over all quantities; and so, to that equality of original demand, all action in time must tend, as to any mass within its own volume, and acquire it if left alone to work out its own destiny to its equality of desire; utter stillness in all resulting.

If our philosophers will make one property equal to do another's work, then, what need of both? If chemical cohesion is not wanted for a ring, why is it for the whole body of the planet to keep its surface edges intact? If gravitation can work bodies in constancy apart without organization, why is organization needed on *our* bodies here to meet gravitational opposition in difficulties, as well as the forces of internal quickened heat?

If friction be a full constant at work in the universe, by motion in all, and so produces heat, yet is it not certain that friction is only a full constant, by being generated against the full first drag grind of inertia, which is of the whole mass, and has first to be all overcome or forced before all is obtained; and so whole inertia must have a first and constant advantage over all properties within, requiring as much exterior power to keep it up, as is required to set it going.

Put two pound weights swinging in a correct scale—Is not the perfectly still inertial force of the air a need to the regulation of the times and circuits of each, as one time ruler, in a general property, all parts are subject to ; and the final decider of when with the gravitational ratio the new abstract H is to be impossible, although it may come in also as a secondary representative on the ratios of each scale on the other only. Must not a force over all, from without, overcome this full ratio of inertia, as in the scale weights and medium to give the first motion ; and is it not certain, that either by the impact of such constant force in a solid hand, or the addition of some constant weight to one scale, or both in rotation, the digest of the future equalities in the scales, by velocities and times, can only be kept up.

Experimentalists have studied the weights and scales of heaven, and left out these important results and demands on, and of the first property, immobility or dead weight ; and then, because the secondaries answered to the law of just gravity, heat, &c., they claim to be infallible in their hypothesis on primary means under God.

So men of science have employed the pendulum to measure heights in hill rises, and finding the instrument lose power, put it down for a loss in attraction, by distance, losing sight themselves altogether of the doctrine of force in the perpendicular weight of the column of air disturbed above, although in their own hearts (the more perfect pendulum-pulse-holder in all the noblest forces of nature,) they admit the medium is the cause of the loss of motive power, and never dream about distance ; yet the law of gravitational loss or gain affects the heart of man as much as a dead pendulum.

Some men of modern science, the boasting competitors of Moses, yea, even of God, have actually turned out of consideration, to set up their system of no dependence for more matter from God, the whole dead weight power of the universe—Science for globes turned into romance. O what sublime minds they have got! The business also of gravitation over the centre, as a full force by mass, toward perfect equilibrium leverage on the surface, turned out, and friction, not obtained by overcoming a clog universal, but master and generator of its cause, the clog and drag of all nature by weight, in universality of glory. A great triumph certainly for the grind-stone. Yet, in considering facts, the law of subsidence cannot be altogether by them put aside.

So Dr. Pritchard says, "Now, it is a settled opinion of some cautious philosophers, that in the lapse of many millions of years—we do not say millions of millions of years—the sun will have lost the greater part of his heat and light, and our earth and its satellite will at length approach nearer and nearer, and ultimately will rush into the great darkened luminary; thus, utter will be the ruin, and vast the outburst of light from the crash thereof. There is nothing chimerical, nothing unphilosophical in the belief, or the expectation of this ultimate phenomena—but the time is not yet." We trust the Doctor himself is only wrong in his science.

Without the Mosaic truth, "Let light be," as measuring a flowing stream from God for ever, as the three first days' statement shews God sought to inculcate, this affair of death need not take millions of years to be accomplished; it would be done with the whirlwind velocity which the whole weight of the universe must secure in self-exhaustion in the centre. Friction could only aid the flying off of all

the heat and light weight to the surface for ever at that rate.

What was there for God to say "good" over six times in the formation, if this view of the cautious, even if true, Christian philosophers be the original one. Atheist, Deist, or Christian, has but little to glory in being lord over a thing of certain ruin, even if his actions on it be right, and his faith true to fact. The wondrous divisibility of matter to account for light being substance, and yet so sub-divisional for its work, has a leading aid in the known fact, that a grain of copper dissolved in an alkali will give a sensible colour to 500,000 times its weight of water; iodine, 7,000 times, &c. Infinity in God secures it to eternity.

The earth and the universal system is out of joint, even under the perfect eternal supply of covenant food in light from God; but surely the believer in the Bible has the best philosophy, the purest science according to experiment, and the best consolation of heart in knowing the mischief is man's own—that creation in millions—and that although the effect

NOTE.—So gross and slow are men of professed attainment in science to learn a truth proved by me six years ago—that the Mosaic account is above them all, and a grand key to discovery—that in the *Christian World* of February 21st, 1868, I read,—“Some weeks ago Professor HUXLEY read a paper to the assembled clergy on Science in relation to Theology. Professor HUXLEY, whatever may be his failings or defects, is a thoroughly brave and honest man, and the aim of his essay was to prove that Science has conclusively put aside the Mosaic record of the Creation. It need not astonish us, therefore, to learn that the delivery of his argument was “followed by a lively discussion.” The clergy appear to have liked the expression of sentiments of a different kind from those which they are accustomed to hear. Well might Paul the Apostle call the science of the unregenerate—“Science so called.”

on the vast constitution of his planet is slow against its great forces of reaction, yet it is certain ; so that she will wax old as a cottage, and yet knowing God in man, has become a covenant holder of its final honours, he sees the interweaving of the moral claim on Him as a full Redeemer, and to his glory, delights in the crisis, that he may see his master shew his truth, honour, and power, by coming with healing in his wings, bringing in a new geological era for men—the earth's surface—floral beauties and animals, which escape the convulsion of that earthquake and fire required for its renewal, to put on a new and better standard. Even the sceptic's cogitations in expectation over his goddess, Dame Nature, can only make the believer's heart more rejoice in his Redeemer, and open his mouth intelligently to say, "Even so come, Lord Jesus," and teach the erring philosophers who have a true faith not to despise the claims of God's book to be their teacher unto correct statements about God's works in nature as a part of their good works.

NOTE.—The *precious* comfort mere science brings to the hope of the stability of our system, and the immortality of the human family, even as a whole, may be seen in the following curious extract from a newspaper of the day. Surely science proves the *lost* estate of man and his universe under him plainly enough, if there be the least ground, as there really is, for these fears of the globe's health.

ALARM ABOUT THE SAFETY OF THE EARTH.

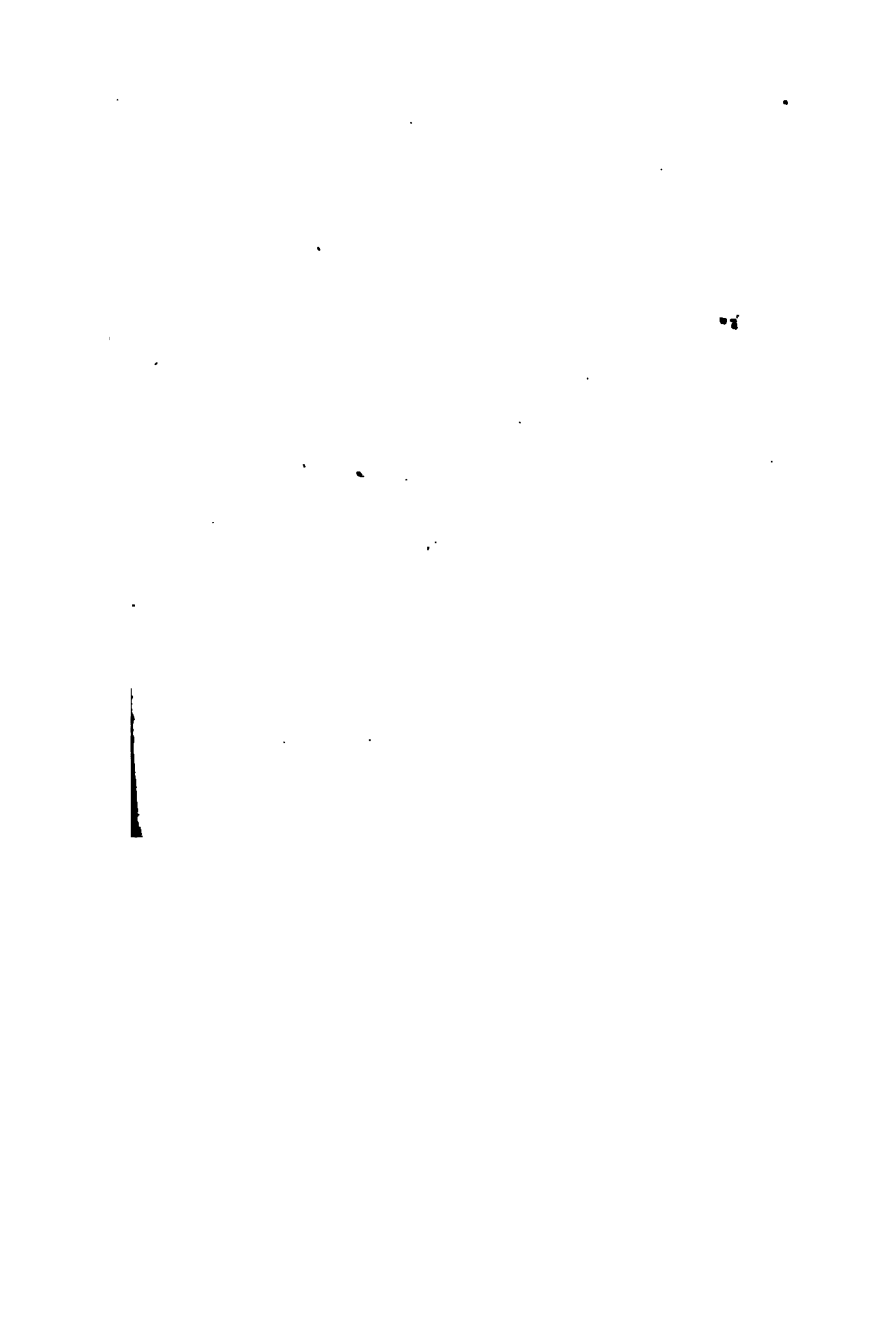
A rather momentous enquiry has recently been made, in view of the multiplied and tremendous earthquakes and volcanic eruptions with which Mother Earth is at present perturbed. Could it be possible, it is asked, for these widespread subterranean commotions to open up the vast inner fires to the sea? and then, would not the enormous amount of steam suddenly developed—under inconceivable pressure, and superheated to boot—blow the globe into

fragments, after the fashion of a shrapnell shell; or, at least, drive half of it away from the other moiety, like the lid of a potato saucepan forgotten by the kitchenmaid. Certainly, that would solve our various political difficulties and social problems in a very decided way, and be undoubtedly a magnificent cosmical spectacle, viewed from the moon; while astronomers in Mars and Venus—if there be any there—would note the disappearance of a thousand million human creatures, along with the orb on which they exist, as calmly as we record the exit of the lost Pleiad. Something must be very much out of sorts with the “old brown Earth,” as the poet calls her. From hemisphere to hemisphere she is rumbling and heaving; from sea to sea she rolls huge waves; half her volcanic vents are in full blast; her harvests fail; frosts and hot weather alternate like cold and hot fits of a terrestrial ague; and, altogether, she appears as uneasy as the restless races of mankind upon her bosom. Vesuvius has been hard at it for two months, throwing up lava and fire as if only just beginning; Manilla, the West Indies, Japan, and Texas have had their earthquakes; Iceland fizzes and steams, and the Jebel Tor volcano, in the Red Sea, is in a state of suppressed fume. A traveller has given an account of a remarkable eruption in Nicaragua, close to the city of Leon, near the Pacific coast. He witnessed two craters in furious activity—one disgorging smoke and fire and red hot stones, to a height of 3,000 feet, vertically; the other “blowing” horizontally, like a monstrous waste-pipe. The stone shower from these two vents had destroyed the forests far and near and covered the soil, within a radius of fifty miles, with black sand, four feet deep in some places. Of course, there is a good deal of comfort in the proverb, that “It’s a far cry to Lochawe.” But, let us not be too complacent: there was a most distinct shock of earthquake felt, a few days ago, in Somersetshire—the earth swung and groaned, clocks stopped, bells rang, and a noise was heard, “like shooting out of a thousand of bricks. Clearly, therefore, we are all in one boat as to this present condition of our venerable planet’s inner regions; and, if anything like the majestic catastrophe hinted at could possibly befall her, it would matter extremely little to anybody whether he lived at Leon or Limehouse, at Naples or Notting Hill. The chemical theory of these phenomena most accepted is that of the late Dr. Daubeny, who supposed that the metalloids which have the most appetite for oxygen—sodium and potassium, for example—exist in

vast quantities in the inner crust of the globe; and that the sea or lake water gets at them, is decomposed, generates gasses, fierce combustion, steam, and finally eruption. But what lets the water in? The Doctor thought the slow earth-furnaces would now and then do that; or, perhaps, fresh atmospheric and ethereal conditions, consequent on the flight of the globe through space. Other theories present us with terrific, but sublime, conceptions of this under-world. Most of them assume a core of immeasurable heat—of flames, ten thousand times fiercer than any blast furnace, in the bowels of the planet. Granite, gneiss, and basalt, which outside are so very solid, roll, they say, and surge, and splash in white-hot waves in this inward maw—this primeval Hades; and when an earthquake happens, it is the surface of the earth undulating upon the swell of these billows, as sea-weed undulates on the top of the ocean. One would like to know how thick the crust is which keeps us from closer acquaintance with such a state of things. Mr. Darwin investigated the South American volcanic regions very carefully, and gave it as his opinion, that there were regions on the earth's surface where the crust was not more than twenty miles through. As volcanoes principally occur along the margin of the ocean or in chains of islands, this gives rather an uncomfortable air of possibility to the "shrapnell-shell" view. Another eminent authority, Mr. Hopkins, inclines to a much more satisfactory way of thinking. His calculations induced him to assert that the main crust could be nowhere thinner than six hundred miles, and that volcanic excitement and eruptions come from superficial lakes or tanks of fiery activity, connected indirectly, perhaps, with the inner igneous core, but in themselves detached, and ramifying by intricate channels under the immediate surface. Any comfort, however, which the nervous may derive from this theory will be a little dashed by yet another view, largely held among volcanic philosophers. M. Daussy, late geographer to the French Board of Longitude, is considered to have proved that, midway between Cape Palmas and Cape St. Roque, in the centre of the Atlantic Ocean, there exists an active eruptive submarine region, 620 miles long and 300 miles broad. It is actually thought that a great part of the ocean floor here is constantly red-hot, and hard at work, like Vesuvius, although under five miles depth of salt water. That such a phenomenon must sometimes occur is proved by the sudden appearance of volcanic islands, as at Santorin

and in a score of other well-accepted instances; while whole archipelagoes, like the Canary Islands and the Virgin Group, are as plainly the product of eruptions under the ocean as the cones of Etna and Vesuvius are of eruptions on the dry land. It is satisfactory to hear that the operation, to whatever issue directed, of these internal earth-fires seems to be subsiding. The upheaval of continents and the subsidence of ocean beds, Australia and America created, and the Pacific and the Atlantic excavated—these are the phenomena of the past with which we must contrast those of the present. Such things happened, say the geologists, as the young molten planet concentrated and cooled; and they cannot reasonably happen in the same abrupt and wholesale manner again. Volcanoes are the safety-valves of the terrestrial machine; and the day to be alarmed would arrive when they should suddenly cease to act. What would happen if the subterranean fires should be thus “banked up,” or if they should in time die out, and leave the heart of the orb stone-cold, or whether there be any inner fires at all—all these things are matters of unsettled speculation. The wise, while they avoid, if possible, residing on Mount Vesuvius or Chimborazo, are content with the clear progressive purpose of that unfathomable Power which “made the round world,” and live their life fearless about the destinies of this little Planet because “He made the Deepes also.”

We need only here note, that the laws spoken of as at work, are such as, fed by the constant stream of sun light, must make the earth move in space, as a shrapnell shell, as the writer likens her to; and thus, whether in order or injured, in all ages it has been her bodily centrifugal force. The apparent disorder has its full likeness in the diseases of the human and all organic systems, with feeding from without. Globes then must be correct to organism in law. If the force exists to split a shell and divide the parts, may it not separate it from its centre below first, &c.







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